State Finances in India

Volume 3

The Measurement of Tax Effort of State Governments, 1973-1976

Raja J. Chelliah
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ABSTRACT OF THE STUDY

This is the final volume of a three-volume set exploring a range of issues relating to intergovernmental fiscal flows in India. This study attempts to evaluate the tax performance of particular states in terms of the average tax effort of all states. In addition to this aggregate measure, different taxes are examined to assess the intensity of use of various potential tax bases by the State governments, given their taxable capacity. The study covers the fifteen major states, over the period 1973-1976. Volumes I and II contain an overview of the principles of revenue sharing in India and a detailed examination of the implications of revenue sharing for project finance, respectively.

Raja J. Chelliah and Narain Sinha were affiliated with the National Institute of Public Finance and Policy, New Delhi when this paper was prepared.

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I. INTRODUCTION

1.01 This study arose out of a perceived need to undertake a study of the measurement of tax effort of selected Indian States for whose development programs the World Bank has given substantial assistance. Since the tax effort of any government can be best measured in comparative terms, the scope of the study covers all the major Indian States.

1.02 It was felt that besides getting an aggregate measure of the tax effort of individual States, it would be useful to gain an idea of the intensity of use of various potential tax bases by the State Governments. In cases of relatively low tax effort, the cause thereof or the sphere of inadequate action could then be identified and the scope for raising more revenue could be taken up for a detailed study. For this reason, the Representative Tax System Approach to the measurement of tax effort was preferred.

1.03 The rationale of the Representative Tax System approach and the methodology employed are explained in detail in Chapter II. Briefly, under this approach, a potential base is first identified for each tax. The effective rate for each tax in every State is then computed by dividing the actual revenue from that tax by the potential base. (Whenever data on potential bases are not available, proxy bases are generally estimated and used.) An average effective rate can be worked out for each tax for all the States. The taxable capacity of a State is estimated by applying the average effective rates of the taxes to their respective bases in that States and aggregating the products. The taxable capacity, so computed, is taken to represent the yield on the basis of average tax effort. Finally, an index of tax effort is derived for each State by taking the ratio of actual tax collection to taxable capacity.

1.04 A relatively low level of effective rate of a tax in a State, as compared to the average effective rate, would indicate that the State concerned is not intensively using the base for that tax, and conversely. Thus a decomposition of the tax effort of different States can be undertaken.

1.05 It was decided that the study should cover all the major States and, if possible, all the taxes levied by them. In addition, consideration was given to studying the efforts made by the State governments in raising resources through water rates or irrigation charges and electricity tariff. Since these are not taxes but are in the nature of prices charged for services and goods supplied, they were not included in the proposed tax effort study given the limitations of the methodology, which does not deal with costs. However, information on the irrigation charges and the electricity tariff in the different States was collected, and is presented here, converted to a standard basis so that their relative levels can be compared and judged.

Scope and Coverage

1.06 This report presents the results of applying the Representative Tax System method to the measurements of tax effort by the Indian States for the period 1973-74 through 1975-76. 1/ Fifteen major States and twelve taxes levied by them are covered in the present study. A three-year average has been used in order to minimize the influence of fortuitous factors, particularly on the level of tax revenues. The effective rates of each tax has been derived as the weighted average for the three-year period, but the average effective rate has been computed as the unweighted average of the effective rates in the different States.

1.07 The States covered by the study are: Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal.

1.08 The taxes covered by the study have been classified as follows: land revenue, agricultural income tax, tax on professions, trade and callings (called profession tax in this report), stamp duty and registration fee, general sales tax, purchase tax on sugarcane, sales tax on motor spirit, tax on vehicles, tax on passengers and goods, entertainment tax, electricity duty, and State excise duty (on liquor). One part of the sales tax, namely, Central sales tax, has been excluded because the collections under this tax in a State do not represent a burden on the citizens of that State. The omission of this tax means that about 10 percent of the total burden of the taxes levied by the State governments is excluded from our calculations. The other tax that has not been considered here is urban immovable property tax.

1.09 The sources of data used are indicated in the Appendix 1.

The Plan of the Study

1.10 The study is divided into six Chapters. In Chapter II, alternative approaches to the measurement of tax effort are discussed and some earlier studies of tax effort are briefly reviewed. Chapters III and IV contain the kernel of the study. In the former, we explain, for each tax, the choice of the potential base, the adjustments made to the proxy base to make it approximate to the potential base, and the refinements made to the revenue collection series; in the latter, we present and discuss the effective rates of different taxes in the States covered. In Chapter V, we derive the relative taxable capacity and tax effort of each of the States. In Chapter VI, we present comparative rates of irrigation charges and electricity tariff in the different States together with a discription of the systems prevailing.

1/ 1975-76 was the last year for which State Domestic Product (SDP) and other economic data were available at the time the study was undertaken.

II. MEASUREMENT OF TAX EFFORT

1. Introduction

2.01 The tax effort of a government can be expressed as a relationship (ratio) between the actual amount of its tax collection and some measure of taxable capacity. However, it is well recognized by economists that taxable capacity cannot be measured in an absolute sense. That is to say, one cannot take a country or a state within a country 1/ by itself and meaningfully enquire what its taxable capacity, or the maximum amount of tax that it could possibly levy, would be, because no definitive answer can be given to such a question. It follows that tax effort too cannot be measured in absolute terms. We are, therefore, led to consider the question in relative terms.

2.02 It is possible to judge the tax effort of a State in relation to those of other States; or more specifically, in relation to the average performance of all the States in a country. The ratio of tax revenue to the total income of a State (tax ratio) is commonly taken as the indicator or measure of relative tax effort. For example, the tax ratio has been used in the application of the Gadgil formula for the allocation of Plan assistance which gives a 10 percent weight to tax effort. The use of the tax ratio as a measure of tax effort, however, involves the implicit assumption that total income, irrespective of other circumstances, is the appropriate indicator of relative taxable capacity. Such an assumption is, however, simplistic; for it can be readily seen that the capacity to pay as well as to collect taxes will be affected by the size of the population in relation to income, the availability of "tax handles", the degree of monetization, and the like. An allowance will have to be made for all such major factors. This can be done either by adjusting the actual tax ratios for variations in tax capacity factors, or by estimating the amounts of taxes that could be collected through the use of potential bases available to the different States. In the former approach, regression analysis is used to estimate or measure the influence of objective (capacity) factors on the tax ratio; in the latter approach, a model or representative tax system is applied to potential bases to estimate relative taxable capacity.

2.03 The regression approach has been employed in most of the studies of tax effort in developing countries undertaken by the staff of the Fiscal Affairs Department of the International Monetary Fund (IMF), while the representative tax system approach has been used by the U.S. Advisory Commission on Inter-Governmental Relations (ACIGR) in its studies of the tax effort of American States. 2/

1/ Since this study is concerned with the tax effort of State governments in India, we shall hereafter refer only to States.

2/ See, (Lotz and Morss, 1967), (Chelliah, 1971) and (Bahl, 1972) for IMF studies employing the regression approach; and (ACIGR, 1970) and (Bahl, 1973) for studies employing the representative tax system approach.

2. Regression or Stochastic Approach

2.04 It may be hypothesized that the actual tax ratio depends on (i) the ability of the people to pay taxes, (ii) the ability of the administration to collect taxes, and (iii) the willingness to tax on the part of the leaders of the government, i.e., their decision regarding the extent of taxable capacity to be utilized. Factors affecting (i) and (ii) may be termed tax capacity factors and those relating to (iii) may be grouped under tax effort factors. One can then attempt to explain variations in the tax ratios of the States through a regression analysis in which the tax ratio can be taken as the dependent variable, and proxies for, or indicators of, tax capacity and tax effort factors as the explanatory variables. Such an exercise would form part of tax ratio analysis.

2.05 Alternatively, an attempt can be made to quantify and isolate the influence of tax capacity factors on the tax ratio so that measures of comparative tax effort by the State governments may be derived on the basis of the residuals. For this purpose, the average degree of relationship between the tax ratio and what are identified as taxable capacity factors may be derived through multiple regression analysis. Since in this regression equation, only tax capacity factors would be included as independent variables, it is not intended to, and will not, explain the total variations in the tax ratio (minus the stochastic element). The difference between the actual tax ratio in a State and that estimated for it on the basis of the tax capacity equation would be the unexplained variance component and may be attributed to tax effort. Tax effort could then be measured in one of two ways. Some expression of the residual variance can be taken as the measure of tax effort, and the States could be ranked according to the values of this expression. Alternatively, the estimated tax ratio can be taken to represent relative taxable capacity, or the tax ratio which a State would have had if it had used its capacity to an average extent. Thus a comparison of the actual tax ratio for a State with its estimated ratio will show whether a State is making the average degree of effort, or more, or less. The ratio of the actual tax ratio to the estimated one would be the index of tax effort, and the tax performance of different States can be compared on the basis of these indices, an index equal to 1 signifying average tax effort.

2.06 As the overall tax ratio is employed in this method of deriving tax effort measures, it has been called the aggregate regression approach. This approach suffers from some important limitations.

2.07 An *a priori* assumption underlying the regression approach is that the independent variables included in the estimated equation are those that affect only taxable capacity and explain variations in it fully. One important limitation of the approach is that in practice this assumption may not be fulfilled entirely. There may be factors that simultaneously affect taxable capacity and tax effort. For example, the per capita income variable does affect the capacity to pay taxes, but it may also influence tax effort through its impact on the demand for public services. One has, therefore, to assume

away the possibility that variations in per capita incomes affect the demand for public expenditure. Such an assumption may not be fully valid in any case, but would be certainly untenable in relation to developed countries. (In developing countries, the unfulfilled demand for public services is so large that variations in per capita incomes may not make any significant impact.)

2.08 Secondly, the efficiency of the approach and the validity of the conclusions drawn depend largely on the correct specification of the model. Since the aim of the exercise is not to obtain the maximum degree of explanation, in the choice of independent variables a balance has to be struck between mere statistical goodness of fit and acceptability on the ground of a priori reasoning. Ultimately judgment has to be exercised and a wrong specification may result. On the other hand, if the goodness of fit were to be made the sole criterion in the selection of independent variables, some of the variables included may not make much sense in terms of an economic understanding of how taxable capacity is determined.

2.09 Thirdly, the interpretation of the statistical results is not free from the usual econometric problems such as least squares bias, multicollinearity and heteroscedasticity.

2.10 Finally, since the aggregate regression approach deals only with the overall tax ratio, i.e., the ratio of the sum of all taxes levied to SDP (state domestic product) it does not explicitly bring out the relationship between individual taxes and the related economic structure variables. Information on these relationships would be quite useful in making inter-State comparisons of tax effort to the extent that it would enable conclusions to be drawn regarding directions of effort, or lack of it. This may be considered a major limitation of the approach, if the ultimate aim is to make recommendations on what steps should be taken in particular States to exploit the tax potential more.

3. The Representative Tax System Approach

2.11 In the aggregate regression approach to the measurement of tax effort, per capita income (or a proxy for it) is generally included among the explanatory (tax capacity) factors. But per capita income, while representing in a broad sense the standard of living of the people, is only a summary measure of the stage of development and other characteristics of the economy. If a more disaggregated picture of the economies of the States could be brought into the computation of relative taxable capacities, the advantages or disadvantages that the different State enjoy or suffer from, in terms of availability and value of potential bases, could be more explicitly taken into account. In the regression approach, the tax capacity factors that are used such as the degree of urbanization, the share of agriculture in SDP and the degree of monetization are in the main proxies for the potential bases from which the taxes have to be collected. The representative tax system method makes direct use of the potential bases themselves.

2.12 This method can be more easily applied to States which levy more or less the same taxes and whose economies are not entirely dissimilar. The method involves three major steps. First, for each tax an appropriate base has to be identified; this should not be the actual base as recorded in official tax statistics, but rather the potential base which can be taken to represent relative taxable capacity. Second, a representative set of tax rates, which may be said to constitute the representative tax system, has to be generated. The representative rate for a tax may be derived as the average of the effective rates (ER) of that tax, the effective rate in a State being computed as the ratio of actual collections to the potential base. Third, the average effective rates (AER) of the taxes have to be applied to their respective bases in a State. The product of the AER and the potential base of a tax will indicate the revenue which the concerned State could raise from that source if its potential were used to the average extent. This is because the rate applied is an average for the States and the base used is the potential base or some reasonable proxy for it. If the products of AER and the potential bases for all the taxes levied by a government are added, the sum would represent the amount of revenue that the State could raise through the representative system. This may be called its relative taxable capacity.

2.13 It may be asked as to why the actual tax rates, as laid down in the law, cannot be used to derive AERs. The main reason why this cannot be done is that under the same tax head different rates are prescribed for parts of the tax base. For example, tax rates vary on different categories of motor vehicles under the motor vehicles tax and on different commodities under the sales tax. Then an attempt can be made to calculate average rates of tax only in respect of individual categories of vehicles or groups of commodities. In practice, even this is not possible partly because the required detailed information on the quantities or values of parts of bases are not available and partly because the classificatory system for rate-differentation is not the same in all the States. To take the example of motor vehicles again, in one State the rates are made to vary according to laden capacity, in another State according to weight and in yet another according to horse power. It thus becomes impossible to compute an average rate for vehicles on the basis of the nominal rates. The same kind of problem arises in the case of most taxes. Hence the need to compute AERs using actual revenue collections.

2.14 The AER of a tax may be derived in either of two ways. One way is to regress the revenue series on the chosen bases, the regression coefficients of the base being taken to represent AER. Alternatively, an arithmetic average--weighted or unweighted--of the effective rates of that tax in the different States may be worked out. We have adopted the latter alternative.

2.15 In calculating ERs, actual bases such as the number of motor vehicles have been used only where it was clear that the actual was identical or very close to the potential. In other cases, we have used proxy bases which, given the limitations of data, come closest to the potential bases. The choice of bases is discussed in detail in Chapter III.

2.16 Our methodology can be described symbolically as follows: If RA_{ij} and PB_{ij} are the actual revenue and the potential base, respectively, for the jth tax in the ith State, then the effective rate of the tax,

$$ER_{ij} = \frac{RA_{ij}}{PB_{ij}}$$

2.17 The average effective rate for the jth tax is then obtained as follows:

$$AER_j = \frac{1}{s(j)} \sum_{i=1}^{s(j)} ER_{ij}$$

where s(j) is the number of States in which the jth tax is being levied.

2.18 The set of AERs, or the representative rate structure, is applied to the corresponding tax bases in each State to derive the yield of the representative tax structure in that State, which is a measure of its relative taxable capacity. Thus the relative taxable capacity (T) of a State is a linear combination of the sets of AERs and of the PBs:

$$T_i = {}_j\Sigma(AER)_j \ (PB)_{ij}$$

4. Index of Tax Effort

2.19 The yield of the representative tax rate structure in a State, $\hat{T}$, which we have termed relative taxable capacity, is in fact the sum of the potential yields of the taxes in that State when each is levied at the nationally average rates, the rates being measured as percentages of the potential bases. This being so, $\hat{T}$ can be taken to represent the tax revenue that a State would have if it made an average effort to exploit its potential bases. It follows that if $T_i > \hat{T}_i$, then the ith State can be said to be making more than average tax effort. Thus, an index of relative tax effort can be derived by dividing the actual revenue of a State by the estimated relative taxable capacity, that is,

$$E_i = \frac{T_i}{\hat{T}_i}$$

If $E_i > 1$, the State may be said to be making more than the average effort; and conversely, if $E_i < 1$. Besides the States can be ranked according to the values of E_i and the effort made by a State could also be judged by its relative position in the order of ranking.

2.20 Since the relative taxable capacity figures shows what revenue the States can raise with average effort, they can be used to rank the States in the order of their per capita taxable capacities. Furthermore, they can be used also for deriving a measure of deficiency in the taxable capacity of the poorer States. We attempt such an exercise in Chapter V.

6. Limitations of the Representative Tax System Approach

2.21 The major limitation of this approach is that it does not explicitly and adequately take into account the influence of differences in per capita income on taxable capacity. The potential bases used are generally components of total income such as the income from a particular sector, or consumption, or a part or whole of investment. The values of these bases are not adjusted for the population factor. Thus, suppose income from agriculture is taken as the base for the agricultural income tax or land revenue; then as between two States with more or less the same level of agricultural income, the one with the lower total population or even with the lower population dependent on agriculture may be said to have the greater capacity. And yet under the representative tax system approach, the revenue that can be raised from this base through average effort would be shown to be the same in both the States. To some extent, the relative sizes of some of the bases themselves reflect differences in the levels of development; for example, the more developed States would tend to have a larger magnitude of monetized consumption. But the full influence of the per capita income level is not captured by the values of the bases of the non-agricultural or commercial taxes.

2.22 The second limitation arises from the fact that data on bases are rarely available with the necessary degree of disaggregation. Aggregated data tend to conceal significant differences in capacity. Thus, if one takes the value of total (monetized) consumption as the base for the general sales tax, one would be ignoring the greater capacity flowing from larger proportion of more highly taxed (or taxable) goods in that total. This becomes inevitable as it is generally not possible to obtain a detailed break-up of revenue and base data on a matching basis.

2.23 Thirdly, while under the regression approach, the choice of explanatory variables can be subjected to the significance test, under the representative tax system approach, the choice of bases often becomes subjective. The reason for this is that since the potential bases cannot often be directly measured, proxy bases have to be chosen. But the closeness of relationship between the potential and their respective proxy bases cannot be measured because the values of the concerned potential bases are not known.

2.24 In spite of these limitations, the representative tax system approach is quite a useful tool of fiscal analysis and measurement of tax performance, as it enables us to relate each tax to a true potential or proxy base so that,

making some allowances for differences in per capita incomes or in the distribution of incomes, etc., we can proceed to analyse the causes of low or high performance. And the indicators of tax effort that we derive through this approach, if we used with caution, can point to valid policy conclusions.

III. TAX REVENUE AND POTENTIAL BASES

1. Introduction

3.01 In this chapter we shall discuss the choice of potential bases for the different taxes covered by our study. The choice of the proper base involves first the identification of the conceptually ideal potential base for a given tax. After the identification of the base we have to examine whether it is measurable and, if so, whether the necessary data are available in all the States for measuring the base in a uniform manner. If neither condition is fulfilled, or if the first is fulfilled but the second is not to a substantial extent, then we need to select a proxy base for which data would be available in respect of at least most of the States. In the case of States for which proxy base data are not available, we are forced to estimate them as best as possible.

3.02 A few of the taxes are not levied in all the States. Some States may not be levying a particular tax because the concerned base does not exist. Thus, a purchase tax on sugarcane cannot be levied in the States which do not grow it. In such cases, we may assume that the tax and the base have zero values in those States and compute the AER excluding them. And, correspondingly, they will not be attributed with any taxable capacity via those taxes. If a State does not levy a tax even though the base exists, the AER of that tax will be computed excluding that State, but it will be presumed to have the capacity which will be measured as in the case of other States.

3.03 These procedures give reasonable results, if most, or at least a majority, of the States levy a particular tax. A problem arises, however, if only a few States levy a tax on a base that is part of a larger base common to all the States. For example, some States levy the agricultural income tax on plantations. This tax falls really on one part of agricultural income. If we compute the AER of this tax and apply it to the plantation income of the few States having plantations, they will be shown to have substantial additional taxable capacity which is not found in the other States. This may not be fair to the few taxes with plantations, because other States may be having other types of taxable agricultural income such as from cash crops like cotton and oil seeds which they may be all taxing at a low rate. In such cases, it is clear that we have to seek a via media.

3.04 The methodologies adopted for deriving the potential bases and the potential of different individual taxes 1/ are discussed below.

1/ The potential of a given tax is equal to the product of AER and its potential base, or the estimated yield of the tax (T_j).

2. Land Revenue and Agricultural Income Tax

3.05 Land revenue in this study includes land tax or the basic land revenue, cesses based on land revenue, special crop cesses, surcharge and betterment levy, if any.

3.06 Although land revenue in some ways resembles an acreage tax, the amount of land revenue that can be raised obviously depends on the productivity of the lands concerned, i.e., on the net income from them. In carrying out land revenue settlements, the net produce of land was always taken into account in some form or another. As resettlements have been suspended for a long time, land revenue payable might have got quite out of line with productivity or net income. Yet, potentially, it is the net income which sets a limit to the amount of revenue that can be collected. Hence it seems reasonable to take net income from agriculture, i.e., the SDP originating in the agricultural sector 1/ to be the potential base for land revenue.

3.07 It could be argued, however, that the size-distribution of agricultural income would also affect the potential of land revenue. Several State governments have in fact attempted to impose a surcharge on larger holdings, and some governments have fully exempted small holdings from payment of land revenue. Apart from this, in a country with large-scale subsistence farming and considerable inequalities in the distribution of land holdings, the amount of revenue that could be collected would obviously be influenced by the unevenness of income distribution. Therefore, it would be better to take account of this factor in the computation of tax potential.

3.08 In addition to land revenue, an agricultural income tax is also levied in some of the States. As pointed out earlier, much the greater part of the yield of the agricultural income tax is obtained from the taxation of plantations, although in several cases the tax is applied also to non-plantation agricultural income. The question arises whether the land revenue and the agricultural income tax should be taken together, and the SDP originating in the agricultural sector, adjusted for income distribution, should be taken to be the potential base for the combination of the two taxes. Another possibility is to take the land revenue and the non-plantation agricultural income tax together with agricultural income other than plantation income as their proxy base, and then to treat the agricultural income tax on plantations separately with income from plantation as its potential base. On examination, it is found that neither of these alternatives will yield satisfactory results. If the first alternative is adopted, we shall be completely ignoring the additional tax capacity which some States acquire through the existence of large, commercially successful plantations. On the other hand, if the second alternative is chosen, the few States with plantations might be credited with much more additional capacity in relation to others than they actually have, because it is well known that several

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1/ Includes also income from animal husbandry.

States, in which there are prosperous farmers, have failed to tap the tax potential arising from the greatly increased productivity of land devoted to several non-plantation crops. That is why the AER of land revenue is far lower than the AER of the plantation agricultural income tax.

3.09 Therefore, we have adopted a third alternative. We have computed the AER separately for the agricultural income tax on plantations and for land revenue and non-plantation agricultural income tax. We have then multiplied the income from plantations by the ratio of the AER of the agricultural income tax (plantation) to that of land revenue. In this way we made an adjustment for the higher taxable capacity represented by agricultural income from plantations. This adjusted figure of income from plantations is then added to income from non-plantation agriculture to represent the base for land revenue and agricultural income tax taken together.

3. Profession Tax

3.10 The formal name of this tax is "tax on professions, trades, callings and employment". It is supposed to be paid by all those who are engaged in some profession or trade or are having some form of gainful employment. Another fact we note is that it is largely confined to urban areas. Though it is not a tax on income, in the case of salaried employees in all the States and of all professions in most of the States, the tax assessed is related to income with a constitutionally imposed ceiling of Rs 250 per year. In the case of traders, the tax is usually collected along with the sales tax and is related to assessed turnover. Data on these various assessment bases are not available. Moreover, given the rather inefficient administration of this tax, the actual base cannot be taken to reflect the true or the potential base. We have, therefore, to choose a proxy base. We have taken income generated by trade, public administration and other services including hotels and restaurants as the potential base for this tax.

3.11 During 1973-76, this tax was levied in eight out of the 15 States covered by the study. Of these, in Andhra Pradesh, Karnataka, Kerala and Tamil Nadu, it was levied and collected by the local bodies. Hence, data on the profession tax collections could not be easily obtained for these States; however, we succeeded in getting the necessary data in respect of Karnataka, Kerala and Tamil Nadu. Since the tax was levied by the State governments themselves in Assam, Haryana, Madhya Pradesh and Maharashtra, we could get the collection figures for these States from the budgets. Thus, in all, profession tax data could be collected for seven States. In Andhra Pradesh, where also this tax was being levied and for which we could not get the data, the potential revenue from this source is taken to be the actual revenue for the purpose of computing the total tax revenue (revenue from all taxes) in this State. This has been done because completely omitting it would have led to the under-estimation of tax effort by this State.

4. Stamps and Registration Fees

3.12 Stamp duties are of two types: judicial and non-judicial. Since it is difficult to conceive of a base for judicial duties and further since

judicial fees should not be regarded and used as a tax except perhaps to deter certain undesirable kinds of litigation, we have excluded these duties from our calculations. Registration fees, as the name implies, are collected in the course of registration of various types of instruments or deeds relating to financial transactions. Under the law, registration of certain instruments is compulsory while that of others is optional. It is found that the registration fee varies for the different types of instruments and that optional registrations are more important than compulsory registrations in the case of movable properties whereas the converse is true in the case of immovable properties. Keeping all these considerations in view, we attempted to classify registration fees into four categories, namely, optional and compulsory registrations separately for movable and immovable properties, and work out also four corresponding potential bases. But we had to give up this exercise owing to the lack of category-wise data.

3.13 Data on the value of total property (movable and immovable) that was transferred are available for most States. It is understood, however, that there is considerable degree of under-valuation of property for the purpose of registration and payment of stamp duty, except in those States where in relation to particular areas the value for registration purposes has been laid down by the Government. Because of the existence of under-valuation, the value of property declared for registration and payment of stamp duty can hardly be said to represent the true value and hence the true base for the collection of these taxes. On the other hand, we have been hard put to find a suitable proxy base for them.

3.14 In order to see if collections of these taxes could be related to SDP, we estimated a regression line with the registration fees and non-judicial stamp duties as the dependent variable and SDP as the independent variable. It was found that the variables were significantly related to each other. Therefore, we have decided to use SDP as the proxy base for these two taxes.

5. General Sales Tax

3.15 In this study, General Sales Tax (GST) includes sales and purchase taxes other than CST, sales tax on petroleum products and purchase tax on sugarcane. GST so defined falls on consumer goods, raw materials and other producer goods excluding petroleum products. We can conveniently classify goods subject to GST under the heads consumer goods and producer goods. It can be hypothesized that the amount of sales or purchase tax that can be levied on consumer goods depends upon the value of cash consumption in a State and that the amount of tax that could be levied on producer goods depends upon the value of inputs used by industries in that State. 1/

1/ It might be argued that heavy taxation of inputs is undesirable and that the States should not be expected to raise the maximum amount of revenue that they can through taxation. While this point may be conceded, one would have to say that to the extent that there is favorable treatment of raw materials, industrial growth would be stimulated and that the State concerned would be able to tax the consumption of its own citizens to a greater extent.

3.16 From among the goods subject to GST we have taken those goods included in the National Sample Survey (NSS) survey of consumer expenditure as consumer goods and the rest have been classified as raw materials and producer goods. 1/ The shares of consumer goods and producer goods in the total yield of GST in a State have been estimated on the basis of the available commodity-wise statistics on tax yield. These statistics are not available uniformly for the three years covered by our study, and it is also the case that the total yield of the tax according to these statistics is less than the actual collection for the year concerned. Hence we have merely used the proportions of the yield of the two categories of goods according to the commodity-wise statistics to divide the actual yield of GST in the different States.

3.17 Commodity-wise sales tax yield figures are not available for Madhya Pradesh and Orissa. On the assumption that the consumption and production pattern of Madhya Pradesh will not be far different from that of Uttar Pradesh and Rajasthan, the proportions for Madhya Pradesh have been derived as the average of those for Rajasthan and Uttar Pradesh. The proportions for Bihar have been used for Orissa. In the absence of complete and reliable information on commodity-wise tax yield for West Bengal, we have used the proportions in Maharashtra for West Bengal.

3.18 Consumer goods are all not taxed at a uniform rate. Some need to be and are exempted because they are necessaries for life and are used predominantly by the poorer sections. At the other end, there are the so-called luxuries which can bear fairly higher rates of tax. Hence the sales tax potential can be said to depend upon the pattern as well as the volume of consumption. In order to take into account the pattern of consumption, it would be necessary to divide consumer goods subject to sales tax into a number of categories related broadly to the rate structure prevailing in the State. Unfortunately, comprehensive and reliable data on commodity-wise sales tax yield are not available for most of the States. The data that have been supplied by the State governments, we have been adequately cautioned, are only in the nature of intelligent estimates. We could not, therefore, use the commodity-wise statistics to further break down the total estimated yield of consumer goods into a number of smaller categories. We have used the total cash expenditure for a State as given in the NSS consumer expenditure survey (1973-74) to be the potential base of GST on all consumer goods.

3.19 We could not obtain data on the value of inputs used in industries. Hence SDP originating in the industrial sector of a State has been taken as the proxy base for GST on producer goods.

6. Sales Tax on Motor Spirit

3.20 Under the head, Sales Tax on Motor Spirit (MST), we cover the sales tax on motor spirit as well as on other petroleum products. The sales tax on

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1/ Kerosene oil has been treated as a consumer good whereas lubricants and fuel oil as producer goods.

these products is levied in all the States. However, some states have merged MST with GST. While the merger was effected before 1973-74 in Andhra Pradesh, Karnataka, Kerala, Madhya Pradesh and Rajasthan, it was done in Bihar in August 1974. For these States, therefore, we could not obtain the yield of MST directly from the Budgets.

3.21 For Andhra Pradesh, Karnataka, Kerala and Rajasthan, the yield of this tax has been taken from the statistics on commodity-wise sales tax yield referred to earlier. In the case of Bihar and Madhya Pradesh for which such commodity-wise tax yield statistics are not available, the yield of the tax has been worked out on the basis of the proportion of MST to GST in the years 1971-73 and 1971-72, respectively.

3.22 If revenue figures could have been obtained separately for different categories of petroleum products subject to tax such as motor spirit, aviation turbine fuel, high speed diesel and light diesel oil, an attempt could have been made to work out a separate base for each of the products. Since such a breakdown of the MST revenue figures was not available, we have taken the estimated value of the total consumption of petroleum products in the State as the potential base for the tax. Information is available on the quantities of the different products consumed in the different States, but not their values. The prices at which the products are sold in different States are also not available; however, it has been possible to obtain category-wise zonal prices. These prices have been applied to the quantities of consumption of different products to derive the estimated value of consumption of the products in the different States.

7. Purchase Tax on Sugarcane

3.23 A tax on sugarcane purchased by the sugar factories is in force in nine States. Of these, in Gujarat, Karnataka, Kerala and Tamil Nadu this tax is treated as part of GST. Therefore, the yield of this tax is treated as part of GST. Therefore, the yield of this tax is not reported separately in their Budgets. We have, therefore used the data on commodity-wise sales tax yield to obtain the estimated yields of this tax in these States. 1/

3.24 The total purchase of sugarcane by sugar factories in a State is the potential base for this tax. We are, however, able to get data only on the total amount of sugarcane crushed in respect of some of the States. Since, however, some factories have their own farms, in their case the total amount crushed will exceed their total purchase. We are, therefore, not able to use the amount of sugarcane purchased or that crushed as the potential base. In order to ensure uniformity, we have used the total value of production in the State as the proxy base. The value of sugarcane production has been arrived at by multiplying total production by the minimum statutory price fixed by the Government of India for each of the producer States.

1/ As in the case of MST, the yield of this tax reported in the commodity-wise statistics is fairly accurate.

8. Entertainment Tax

3.25 The entertainment tax forms part of a composite tax head comprising luxury, betting, show and amusement taxes. Of these, only the entertainment tax levied on tickets of admission to cinemas, theatrical performances, and the show tax are important. The other components which are levied only in a few States and are of negligible revenue importance have been excluded.

3.26 The data on entertainment tax collections are readily available in the Budgets. The show tax is not levied in many States and its yield can be merged with that of the entertainment tax.

3.27 If it can be assumed that the proportions of different classes of cinema goers would be more or less the same in all the States, the most appropriate potential base for the entertainment tax would be the gross revenues of the cinema houses in a State; for all the States would be able to introduce the kind of differentiation in rates which would enable them to impose the same relative burden (in terms of percentage of money spent for entertainment) on the different classes of cinema goers provided that the rates of admission to the different categories of seats are also more or less similar. The rates of admission for similar classes, of course, vary significantly as between cities and rural areas; but if the comparison is between States, we could make the assumption of broad similarity in the rates of admission.

3.28 However, if the proportions of different classes of cinema goers differed among the States, all the States cannot be expected to achieve the same effective rate, namely, the same ratio of entertainment tax collections to gross revenues of the cinema houses. In such a case, tax collections and receipts of the cinema houses would have to be disaggregated and effective rates would have to be computed separately for each class of cinema goer. In practice, we are unable to obtain data on different classes of cinema goers or separate tax collection figures for different rate categories. The utmost we could hope to get are figures of gross receipts of cinema houses or some proxy for them

3.29 We could not obtain data on gross receipts of the cinema houses. A proxy that we considered was gross collection capacity as measured by the number of shows times the value of tickets at the housefull-capacity. Data on the number of shows and the value of tickets sold at full capacity are available only for Karnataka, Kerala, Orissa, Tamil Nadu and Uttar Pradesh.

3.30 Information on the number of cinema houses is available for all the States. For six States, namely, Karnataka, Kerala, Orissa, Rajasthan, Tamil Nadu and Uttar Pradesh, information is also available on the average seating capacity; for Andhra Pradesh and Gujarat, however, only information on the average number of visitors is available.

3.31 The total number of cinema houses multiplied by the average seating capacity would give the total seating capacity in the State. For Andhra Pradesh and Gujarat, we have assumed that the average number of visitors

multiplied by 365 (the number of days in a year) would yield the figure approximating the total seating capacity. 1/ In the absence of other information, we have been forced to use the estimated figures of total seating capacity to represent the potential base of this tax.

3.32 The total seating capacity could be estimated in the above manner only for eight States. As for the other States, we postulated the hypothesis that the total seating capacity (TSC) of cinema houses depended on the per capita income and population of the State. But when we estimated a regression equation with per capita income and population as explanatory variables, the coefficients of both the variables turned out to be insignificant. Per capita income was hence replaced by the number of cinema houses and the following equation was obtained, using eight observations:

$$\text{TSC} = 14479.5925 + \underset{(11.08)}{564.6461^{*}}\,(\text{NOC}) + \underset{(0.13)}{14.0883}\,(\text{POP}) \qquad R^2=0.96$$

t-ratio

where (NOC) is the number of cinema houses and (POP) is population. In the above equation, the population variable has not turned out to be significant, yet it has been retained because a priori reasoning supports it. This equation has been used to estimate total seating capacity for Assam, Bihar, Haryana, Madhya Pradesh, Maharashtra, Punjab and West Bengal.

9. Motor Vehicle Tax

3.33 As motor vehicles of different types, ranging from two wheelers to trucks, are taxed at varying rates, it is not possible to take the total number of vehicles as the potential base of this tax.

3.34 From the tax point of view, the vehicles can be classified into the following broad categories: (i) two wheelers with registered laden weight as the basis of the tax; (ii) three wheelers and four wheelers including cabs taxed on the basis of seating capacity; (iii) buses;2/ and (iv) trucks and other government vehicles which are taxed on the basis of unladen weight.

1/ The product when divided by the number of cinema houses gives a figure not very different from the average seating capacity of cinema houses in other States.

* This mark is used in this report to indicate statistical significance of the coefficient at 5 per cent level of significance.

2/ The buses are also taxed according to seating capacity, but the rates for them are much higher than for other four wheelers.

3.35 We have data on total motor vehicles tax collections for all the States. In addition, we have been able to collect information on the rate structures and the data on the number of vehicles in all the above categories. However, the breakdown of revenue by these categories of vehicles is not available; nor can we get the breakdown of the number of vehicles in each category according to range of laden weight, seating capacity, etc. Thus, although we have information on the rate structures, we are unable to calculate the (weighted) average rate of tax for each category of vehicles.1/ Since the total motor vehicles tax revenues cannot be broken down by categories of vehicles, we cannot compute the effective rate for each category and a weighted effective rate for all vehicles in each State. Hence we have had to fall back on the regression technique. The motor vehicles tax potential had to be estimated directly on the basis of a regression line with the number of vehicles under each category as the explanatory variables. In doing this we ran into a problem. Andhra Pradesh and Tamil Nadu do not impose a separate tax on passengers and goods; instead they are collecting motor vehicles tax at enhanced rates. Therefore, the figures of motor vehicles tax collections in these two States are not comparable to the corresponding figures for the other States. Therefore, it became necessary to separate out the component of motor vehicles tax in Andhra Pradesh and Tamil Nadu which can be said to correspond to the passengers and goods tax in the other States.

3.36 For this purpose, we wished to obtain estimates of hypothetical motor vehicles tax (MVT) and passengers and goods tax (PGT) collections in the two States, and then to use the proportions of the estimated amounts to apportion actual MVT collections between the two taxes. The first step here was to estimate hypothetical MVT collections. This has been done on the basis of a regression equation in which MVT collections for 13 States excluding Andhra Pradesh and Tamil Nadu were taken as the dependent variable and the number of vehicles in the four different categories as the explanatory variables. The equation obtained is as follows:

$$\begin{array}{lllllll} MVT & = 182.3533 + & 0.0051^{*} N_1 & + 0.0034 N_2 & + 0.0720^{*} N_3 & - 0.0053 N_4 & \\ \text{t-ratio} & & (2.43) & (1.78) & (2.22) & (0.82) & R^2=0.95 \end{array}$$

where MVT = revenue from motor vehicles tax, and N_1, N_2, N_3 and N_4 stand for number of vehicles in the four categories of two wheelers, three and four wheelers, buses, and trucks and others, respectively.

3.37 The next step was to estimate hypothetical PGT collections in the two States. For reasons explained in the next section, we found it appropriate to do this separately for the State Road Transport Corporations and for the private sector. To estimate the hypothetical passengers tax paid by

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1/ Such average rates multiplied by the numbers of the respective categories of vehicles would have given us the proportions for the allocation of total collections among those categories.

the State Road Transport Corporations, an equation was estimated with the number of buses owned by the State Road Transport Corporations as the independent variable and the passenger tax paid by them as the dependent variable. This equation could be estimated with only 11 observations because information on the passengers tax was not available for Assam and because West Bengal had to be excluded, as it did not levy this tax. The following equation was estimated:

$$\begin{array}{lll} PTN & = 14.6309 + 0.2450^{*} (BUSN) & \\ \text{t-ratio} & \qquad\qquad (4.19) & R^2 = 0.69 \end{array}$$

where PTN is the passenger tax paid by the nationalized sector and BUSN is the number of buses in this sector.

3.38 The passengers and goods tax (PGT) collected from the private operators was estimated with the help of another regression equation with two explanatory variables, namely, the number of trucks and buses registered in the States. Here again only 11 observations could be used. The following equation was obtained:

$$\begin{array}{lll} PGT & = -42.4907 + 0.7130 (BUSP) + 0.0225^{*} (TRUK) & \\ \text{t-ratio} & \qquad\qquad (1.23) \qquad\qquad (2.68) & R^2 = 0.56 \end{array}$$

where PGT is that part paid by the private sector, BUSP is the number of buses under private operation and TRUK is the number of trucks under private operation registered in the State. While estimating the above equation also, the four States mentioned above were excluded for the reasons already cited.

3.39 The above two equations were used to estimate hypothetical collections of the passenger tax paid by the nationalized sector (PTN) and (PGT) paid by the private sectors in Andhra Pradesh and Tamil Nadu. 1/

3.40 The proportions of the estimates of the three components, i.e., MVT, PGT and PTN were applied to the actual total collections of the motor vehicles tax in Andhra Pradesh and Tamil Nadu in order to obtain estimates of hypothetical collections of the three components.

3.41 Using the hypothetical figures of MVT as derived above for Andhra Pradesh and Tamil Nadu along with the figures of actual collections of the same tax in the other States, the tax potential of the tax was estimated on the basis of a regression equation with MVT as the dependent variable and the number of vehicles registered under different categories as the independent variables. This equation is given in the next chapter.

1/ (PGT) was estimated also for Assam for a different purpose; see below next section.

10. Passengers and Goods Tax

3.42 Strictly speaking, we should be estimating the AER separately for the passengers tax and the goods tax. For passengers tax, wherever the tax is to be paid as a percentage of gross revenues, gross revenues of public and private passenger transport companies should be taken as the potential base. However, since in most States where this tax is levied, it is collected as a lump sum related to the seating capacity of the vehicles and the length of the routes, the volume of passenger traffic measured in passenger kilometers would be the appropriate potential base. However, data on neither gross revenues nor the volume of traffic are available for the privately owned passenger transport companies. Per contra, information on the volume of passenger traffic in respect of State Road Transport Corporations is available for all the States (except Assam and Haryana), where the passenger tax is levied. Hence it has been decided to compute the AER separately for the passenger tax paid by the nationalized sector, using passenger kilometers travelled as the potential base. For Assam and Haryana, for which this information is not available, we have estimated it on the basis of a regression line with the number of buses in the public sector as the independent variable using 13 observations for the value of passenger kilometers. The equation is reproduced below:

$$PKM = 5962.7500 + 27.4751^{*} (BUSN)$$
$$\text{t-ratio} \qquad (6.20) \qquad R^2 = 0.79$$

where PKM stands for passenger kilometers and BUSN represents the number of buses in the nationalized sector as before.

3.43 For the passengers and goods tax paid by the private sector, the total number of buses and goods vehicles under private operation registered in the State has been taken as the potential base.

11. Electricity Duty

3.44 This tax is levied on the consumption of electricity in the State. Hence the total consumption of electricity has been taken as the potential base, and the effective rate has been obtained by dividing the total revenue from this duty by the total consumption.

3.45 Andhra Pradesh does not have a separate electricity duty and in Tamil Nadu a duty at the rate of 18 paise per unit is levied on large industrial consumers only. Since the level of electricity tariff in these two States is perceptibly higher than in the neighboring States, it would not be proper to proceed on the basis that the former do not levy the duty. We have assumed that the element of electricity duty in the enhanced electricity tariff in Andhra Pradesh and Tamil Nadu is equal to the amount that would be collected if the rates prevailing in Karnataka had obtained in these two States; that is to say hypothetical amounts of electricity duty for Andhra Pradesh and Karnataka have been computed by applying the Karnataka rates to their consumption.

12. State Excise Duty

3.46 The State excise duty is levied on all kinds of alcoholic liquor, opium, hemp and other narcotics. For this duty either the total value of consumption of liquor and narcotics or the total quantities of consumption of various goods subject to State excise duty could be taken as the potential base. The value of the consumption of liquor and narcotics in a State would change if either the prices of the various categories of liquor and narcotics change or the quantities of these goods consumed change. Since most of the levies under the State excise duty are in the nature of specific duties, their yield will not automatically change if only the price changes; it will rather vary with the quantities consumed. Hence it is preferable to take quantities consumed as the potential base. However, since different categories of liquor/narcotics are taxed at varying rates, it is necessary to compute effective rates of tax separately for at least the major categories. For this purpose, all types of exciseable items have been grouped under four relatively homogeneous categories:

(i) Country liquor;

(ii) Indian made foreign liquor;

(iii) Beer; and

(iv) Narcotic products.

3.47 Of these, narcotic products do not, really speaking, constitute a homogeneous group; and not only the relative quantities of consumption of the different narcotics vary among the States but they are also taxed at different rates in the States. Therefore, it would not be meaningful to construct an effective rate for narcotic products as a whole; and since, further, these products yielded only a very small proportion of the total revenue from the State excise duty, it has been considered preferable to omit their yield from our calculations. Effective rates have been computed separately for the other three categories. However, for reasons explained below, all the States could not be included in the calculation of the effective rates of duty.

3.48 For Orissa, data on the quantities or value of consumption of liquors could not be obtained. In Gujarat total prohibition was in force during the period of our study. Although there was prohibition, it is widely believed that there has been considerable illicit consumption of liquor. Hence it could be argued that the potential base for the State excise duty existing in Gujarat also. An attempt was made to estimate hypothetical quantities of the consumption in Gujarat of different categories of goods subject to State excise duty through regression analysis. Since we did not obtain satisfactory statistical results, Gujarat was excluded from the calculations of the average effective rates. As far as Orissa is concerned, since base data are not available, actual revenue has been taken to equal potential revenue. This procedure has been adopted in some other cases also in which consumption data of particular categories of liquor were not available.

3.49 In Tamil Nadu, prohibition was in force prior to 1973-74. It was removed during 1973-74 but was reimposed in the beginning of the next year. But even for that year (1974-75) we have been able to obtain information only on the quantity of beer consumed.

3.50 For country liquor, we have been able to obtain data for all the remaining 12 States; for Indian made foreign liquor, for eight States; and for beer also, for eight States (but their composition is different). Average effective rates have been computed on the basis of revenue yield and potential bases in the States for which we could get the necessary data as indicated above. An implicit assumption underlying this procedure is that if the figures of the excluded States were also included, the levels of the different average effective rates would not be significantly different.

IV. AVERAGE EFFECTIVE RATES AND INDICES OF USE OF THE TAX POTENTIAL

4.01 In this Chapter we present the average effective rate of each tax, which is derived as the simple average of the effective rates. Applying these rates to the potential bases of the corresponding taxes, we derive for each State the potential of the different taxes. It may be recalled that the term "potential of a tax" is used in this study to mean what a State would have raised from a tax source, if it had applied the average effective rate to the potential base, i.e., the yield that might be expected on the basis of an average degree of exploitation of the potential base.

1. Land Revenue and Agricultural Income Tax

4.02 As explained in the previous chapter, land revenue and the agricultural income tax have been taken together, with the potential base for the combined tax in the plantation States being adjusted upwards to take account of the higher potential of the income from plantations. The effective rates of the two taxes combined vary from 1.5 per cent in Andhra Pradesh to 0.15 per cent in Punjab (Table IV.1). Because Assam taxes plantation incomes rather heavily and also because plantation income forms a larger proportion of agricultural income in that State than in the other States, it has an effective rate of 1.45 per cent, i.e., a rate almost equal to that in Andhra Pradesh although land revenue collection in that State is rather low in relation to the base. The AER is less than one per cent -- the States on an average raise only 0.70 per cent of agricultural income through land revenue and the agricultural income tax. It is noteworthy that the more prosperous and more industrialized States (except for Maharashtra) have lower than average effective rates, whereas the converse is true generally of the poorer and less industrialized ones. As land revenue does not change with the growth of agricultural income, it falls as a proportion of the base with the increase in agricultural productivity and growth. Moreover, with the growing commercialization of the economy, the more developed States are able to raise substantial resources from the sales and other indirect taxes.

4.03 Column (6) in Table IV.1 gives the index of use of potential of land revenue for each of the States. (Index of use of tax potential has been defined to mean the ratio of the actual revenue from a tax to its "potential".) An index of unity (= 1) indicates an average degree of exploitation of the potential base. Only Andhra Pradesh, Assam, Madhya Pradesh and Rajasthan are seen to have indices significantly higher than unity.

Table IV.1 EFFECTIVE RATES AND AVERAGE EFFECTIVE RATE OF LAND REVENUE AND AGRICULTURAL INCOME TAX (ADJUSTED) (1973-76)

State	Tax Revenue (Rs lakh)	Tax Base* (Rs lakh)	Effective Rate (%)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	3477.00	231461.00	1.50	1597.08	2.1771	1
Assam**	1999.33	137425.96	1.45	948.24	2.1085	2
Bihar	1511.00	211166.00	0.72	1457.05	1.0370	8
Gujarat	765.33	124843.00	0.61	861.42	0.8885	9
Haryana	449.00	81437.00	0.55	561.92	0.7990	10
Karnataka**	868.33	253207.63	0.34	1747.13	0.4970	13
Kerala**	1052.33	130868.13	0.80	902.99	1.1654	5
Madhya Pradesh	1922.00	198491.00	0.97	1369.59	1.4033	3
Maharashtra	1610.00	214924.00	0.75	1482.98	1.0857	6
Orissa	261.67	109759.00	0.24	757.34	0.3455	14
Punjab	196.33	131563.00	0.15	907.78	0.2163	15
Rajasthan	1197.00	142094.00	0.84	980.45	1.2209	4
Tamil Nadu**	955.67	229290.45	0.42	1582.10	0.6041	11
Uttar Pradesh	2949.67	405886.00	0.73	2800.61	1.0532	7
West Bengal**	1146.00	322873.07	0.35	2227.82	0.5144	12

Average effective rate = 0.69 per cent

* Tax base: Total SDP (Ag) with adjusted income from plantations.

** States having plantation crops.

2. Tax on Professions, Trade and Callings (Profession Tax)

4.04 The profession tax is levied only in eight States (Table IV.2).1/ Of these, in Andhra Pradesh, Karnataka, Kerala and Tamil Nadu, this tax is

1/ A minor tax of this kind is understood to have been levied by some local bodies in Gujarat during the period under study. In 1976 the Government of Gujarat imposed this tax.

being levied by the local bodies. For the States levying this tax and for which data are available, the AER works out to only 0.27 per cent. It is evident that the States are not earnestly exploiting this source of revenue. Maharashtra is the sole exception to this statement; there the yield of the tax was 0.7 per cent of the base in the very first year of operation.

4.05 The total yield of the tax in all the States levying it amounts to only Rs 18.56 crore. If all the States impose this tax (at the level of either State Governments or the Local Governments), and an AER of one per cent is reached, the yield would be as much as Rs 111.78 crore, given the 1973-76 base level.

Table IV.2 EFFECTIVE RATES AND AVERAGE EFFECTIVE RATE OF PROFESSION TAX (1973-76)

State	Tax Revenue (Rs lakh)	Tax Base* (Rs lakh)	Effective Rate (%)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	N.A.	97852.00	-	264.20	-	-
Assam	42.00	11806.67	0.36	31.88	1.3174	2
Bihar	Nil	77204.50	-	208.45	-	-
Gujarat	Nil	82754.67	-	223.44	-	-
Haryana	46.33	23840.67	0.19	64.37	0.7197	4
Karnataka (1973-75)	14.96	18183.00	0.08	49.09	0.3047	7
Kerala	99.79	52932.67	0.19	142.92	0.6982	5
Madhya Pradesh	123.33	56827.67	0.22	153.43	0.8038	3
Maharashtra (1975-76)	1376.00	198610.00	0.69	536.25	2.5660	1
Orissa	Nil	25073.67	-	67.70	-	-
Punjab	Nil	44010.00	-	118.83	-	-
Rajasthan	Nil	47750.33	-	128.93	-	-
Tamil Nadu	153.80	111834.33	0.14	301.95	0.5094	6
Uttar Pradesh	Nil	150635.67	-	406.72	-	-
West Bengal	Nil	118459.67	-	319.84	-	-

Average effective rate = 0.27 per cent

* Tax base: Income from public administration, trade, hotels and restaurants, banking and insurance and other services.

N.A. : Tax levied by local bodies; collection figures not available.

3. Stamps and Registration Fees

4.06 As indicated in the previous Chapter, although the value of property transferred would seem to be the appropriate base for this tax, we could not use it because of probable differences in under-valuation in the different States. It has been decided to use SDP as the potential base, since a close correlation is found between SDP and the revenue from this source, the former explaining 65 per cent of the variations in the latter.

4.07 The effective rates vary from 0.68 per cent in Punjab to 0.11 per cent in Assam. With reference to SDP, Punjab, Tamil Nadu, Kerala, Haryana, Karnataka and Uttar Pradesh exploit this source relatively intensively. Of these, the last two have an index only slightly above the average.

4.08 If the value of property transferred, as officially recorded, is taken as the base, the ranking of the States in terms of effective rates (and index of use of potential of this tax) turns out to be quite different (see Appendix Table A.2). Uttar Pradesh, Haryana, West Bengal, Gujarat, Madhya Pradesh and Bihar have effective rates significantly higher than the average. It is difficult to say, in the case of each State, to what extent the higher effective rate is due to under-valuation of property. Whereas the AER of stamps in terms of SDP is 0.35 per cent, in terms of value of property transferred it is 5.4 per cent. If properties are not under-valued significantly, the ERs as per cent of value of property could be said to be fairly high in most cases.

Table IV.3 EFFECTIVE RATES AND AVERAGE EFFECTIVE RATE OF STAMPS AND REGISTRATION FEES (1973-76)

State	Tax Revenue (Rs lakh)	Tax Base* (Rs lakh)	Effective Rate (%)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	1306.26	432666.70	0.30	1514.33	0.8626	9
Assam	134.58	124866.70	0.11	437.03	0.3079	15
Bihar (1973)	1225.29	357850.00	0.34	1252.47	0.9783	7
Gujarat	843.15	320966.70	0.26	1123.38	0.7505	10
Haryana (1973-75)	653.74	129905.00	0.50	454.67	1.4378	4
Karnataka	880.77	246053.30	0.36	861.19	1.0227	6
Kerala	1029.75	198800.00	0.52	695.80	1.4799	3
Madhya Pradesh	839.95	356043.30	0.24	1246.15	0.6740	12
Maharashtra (1973)	1437.90	584560.00	0.25	2045.96	0.7028	11
Orissa	371.60	171740.00	0.22	601.09	0.6182	13
Punjab	1480.83	217703.30	0.68	761.96	1.9434	1
Rajasthan	404.92	231923.30	0.17	811.73	0.4988	14
Tamil Nadu	2175.29	380866.70	0.57	1333.03	1.6318	2
Uttar Pradesh (1974-75)	2765.28	758890.00	0.36	2656.12	1.0411	5
West Bengal (1973-74)	1321.53	436140.00	0.30	1526.49	0.8657	8

Average effective rate = 0.35 per cent

* Tax base: SDP at factor cost (current prices).

4. General Sales Tax

(a) Sales Tax on Consumer Goods. As indicated earlier, goods subject to sales tax have been divided into consumer goods and producer goods. For the sales tax falling on consumer goods, total cash expenditure of the household in the State during 1973-74 has been chosen as the potential base. The average effective rate works out to 1.5 per cent of the base (Table IV 4.1). Expenditure in 1973-74 has had to be used because NSS data for expenditure for subsequent years are not available. If average consumer expenditure for the period 1973-76 had been taken, the AER would have been somewhat lower. Punjab, Kerala, Tamil Nadu and Gujarat seem to have effective rates higher than 2 per cent. The lowest effective rate is that of Assam at 0.65 per cent. It should be pointed out that the yield of Central sales tax has been excluded; hence what we are considering is the yield of the tax on local consumption.

Table IV.4.1 EFFECTIVE RATES AND AVERAGE EFFECTIVE RATE OF GENERAL SALES TAX (CONSUMER GOODS) (1973-76)

State	Tax Revenue (Rs lakh)	Tax Base* (Rs lakh)	Effective Rate (%)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	5644.57	377653.00	1.49	5729.00	0.9853	6
Assam	900.22	138018.00	0.65	2093.73	0.4300	15
Bihar	3674.80	521738.00	0.70	7914.77	0.4643	14
Gujarat	5930.06	255308.00	2.32	3873.02	1.5311	4
Haryana	1594.44	116362.00	1.37	1765.21	0.9033	8
Karnataka	3748.69	265925.00	1.41	4034.08	0.9293	7
Kerala	5212.46	202730.00	2.57	3075.41	1.6949	2
Madhya Pradesh	4322.18	363498.00	1.19	5514.26	0.7838	9
Maharashtra	9958.02	502021.00	1.98	7615.66	1.3076	5
Orissa	1412.01	160768.00	0.88	2438.85	0.5790	13
Punjab	3294.92	124290.00	2.65	1885.48	1.7475	1
Rajasthan	3016.41	275025.00	1.10	4172.13	0.7230	10
Tamil Nadu	8335.43	353892.00	2.35	5368.54	1.5526	3
Uttar Pradesh	7880.90	749240.00	1.05	11365.97	0.6934	11
West Bengal	4137.37	404448.00	1.02	6135.48	0.6743	12

Average effective rate = 1.52 per cent

* Tax base: Total cash expenditure of the households in the State during 1973-74.

(b) Sales Tax on Producer Goods. SDP originating in the manufacturing sector has been chosen as the potential base for this part of the general sales tax. The AER is as high as 5.7 per cent, the ERs in the different States varying from 3.4 per cent to 9.5 per cent (Table IV.4.2). It is thus seen that the tax on producers' goods (excluding petroleum products) is fairly heavy in relation to value added in the manufacturing sector.

Table IV.4.2 EFFECTIVE RATES AND AVERAGE EFFECTIVE RATE OF GENERAL SALES TAX (PRODUCER GOODS) (1973-76)

State	Tax Revenue (Rs lakh)	Tax Base* (Rs lakh)	Effective Rate (%)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	2994.19	41774.00	7.17	2369.02	1.2639	4
Assam	464.44	7873.00	5.90	446.48	1.0402	7
Bihar	1872.07	50680.00	3.69	2874.08	0.6514	14
Gujarat	2995.38	64289.00	4.66	3645.85	0.8216	11
Haryana	550.07	16003.00	3.44	907.54	0.6061	15
Karnataka	2404.78	25370.00	9.48	1438.74	1.6714	1
Kerala	1406.54	18849.00	7.46	1068.93	1.3158	2
Madhya Pradesh	1863.85	50032.00	3.73	2837.33	0.6569	13
Maharashtra	10110.55	158084.00	6.40	8965.01	1.1278	5
Orissa	719.32	11535.00	6.24	654.15	1.0996	6
Punjab	1005.42	21291.00	4.72	1207.42	0.8327	10
Rajasthan	1311.30	17947.00	7.31	1017.78	1.2884	3
Tamil Nadu	4439.18	86743.00	5.12	4919.23	0.9024	9
Uttar Pradesh	3371.10	65005.00	5.19	3686.46	0.9145	8
West Bengal	4158.67	90834.00	4.58	5151.23	0.8073	12

Average effective rate = 5.67 per cent

* Tax base: State Domestic Product (SDP) originating in the manufacturing sector.

(c) All goods. We have also calculated the ERs of the taxes on consumer goods and producer goods taken together, with the sum of the cash consumption expenditure of households and SDP originating in the manufacturing sector as the base. In this case the AER works out to nearly 2 per cent (Table IV.4.3). It was seen that as regards consumer goods taxation, Punjab had the highest ER and that in regard to producer good taxation, Karnataka had the highest rate. If the two taxes are taken together, it is seen that Maharashtra has the highest ER, indicating that the overall burden of sales taxation (excluding tax on motor spirit) is the highest in that State.

Table IV.4.3 EFFECTIVE RATES AND AVERAGE EFFECTIVE RATE OF GENERAL SALES TAX (ALL GOODS) (1973-76)

State	Tax Revenue (Rs lakh)	Tax Base* (Rs lakh)	Effective Rate (%)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	8638.76	419427.00	2.06	8287.88	1.0423	7
Assam	1364.66	145891.00	0.94	2882.81	0.4734	15
Bihar	5546.87	572418.00	0.97	11310.98	0.4904	14
Gujarat	8925.44	319597.00	2.79	6315.24	1.4133	5
Haryana	2144.51	132365.00	1.62	2615.53	0.8199	9
Karnataka	6153.47	291295.00	2.11	5755.99	1.0691	6
Kerala	6619.00	221216.00	2.99	4371.23	1.5142	2
Madhya Pradesh	6186.03	413530.00	1.50	8171.35	0.7570	10
Maharashtra	20068.57	660105.00	3.04	13043.67	1.5386	1
Orissa	2131.33	172303.00	1.24	3404.71	0.6260	13
Punjab	4300.34	145581.00	2.95	2876.68	1.4949	3
Rajasthan	4327.71	292972.00	1.48	5789.13	0.7476	11
Tamil Nadu	12774.61	440635.00	2.90	8706.95	1.4672	4
Uttar Pradesh	11252.00	814245.00	1.38	16089.48	0.6993	12
West Bengal	8296.04	495282.00	1.67	9786.77	0.8477	8

Average effective rate = 1.98 per cent

* Tax base: Sum of cash consumption expenditure of households and SDP originating in manufacturing sector.

(d) Sales Tax on Motor Spirit. The AER of this tax with the value of consumption of petroleum products as the base works out of 9 per cent (Table IV.4.4). The rates of tax on different petroleum products vary widely and the pattern of consumption or use also differs from State to State. Those States in which the proportion of consumption of the more highly taxed products is larger would tend to have higher effective rates; and conversely. The general level of rates is also distinctly lower in some of the States. It is seen that Tamil Nadu has the highest ER (15.3 per cent) and Andhra Pradesh the lowest rate (4.5 per cent). Considering that most of the petroleum products are subject to heavy excise taxation, an AER of 9 per cent for sales tax on these products would seem to be on the high side. Andhra Pradesh Haryana, Kerala, Madhya Pradesh, Orissa and Punjab seem to be the only States in which some raising of the rates would be possible. This statement is subject to the qualification that some of the States mentioned might be having higher than the average rates of taxes on passengers and goods.

Table IV.4.4 EFFECTIVE RATES AND AVERAGE EFFECTIVE RATE OF SALES TAX ON MOTOR SPIRIT (1973-76)

State	Tax Revenue (Rs lakh)	Tax Base* (Rs lakh)	Effective Rate (%)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	310.24	6933.69	4.47	624.03	0.4972	15
Assam	336.34	3009.86	11.17	270.89	1.2416	3
Bihar	523.80	5583.23	9.38	502.49	1.0424	8
Gujarat	1101.10	10269.77	10.72	924.28	1.1913	4
Haryana	230.18	3502.92	6.57	315.26	0.7301	10
Karnataka	1126.67	7501.47	15.02	675.13	1.6688	2
Kerala	289.90	4716.51	6.15	424.49	0.6829	12
Madhya Pradesh	313.64	5962.35	5.26	536.61	0.5845	13
Maharashtra	2087.10	20140.40	10.36	1812.64	1.1514	6
Orissa	109.67	2211.31	4.96	199.02	0.5511	14
Punjab	511.00	8116.80	6.30	730.51	0.6995	11
Rajasthan	511.29	4915.91	10.40	442.43	1.1556	5
Tamil Nadu	1721.33	11237.10	15.32	1011.34	1.7020	1
Uttar Pradesh	1172.00	13022.76	9.00	1172.05	1.0000	9
West Bengal	958.29	9681.22	9.90	871.31	1.0998	7

Average effective rate = 9.00 per cent

* Tax base: Value of consumption or petroleum products.

5. General Sales Tax and Sales Tax on Motor Spirit Combined

4.09 It would be of interest to know what proporation of the domestic product each State raises in the form of sales taxation on all goods including petroleum products (but excluding Central sales tax). Table IV.5 gives total sales tax revenue as per cent of SDP at factor cost. Tamil Nadu has the highest ER at 3.8 per cent and Orissa the lowest with 1.3 per cent. The AER works out to 2.3 per cent. It is noteworthy that the more industrialized States with the exception of West Bengal have all indices of use of Potential of this tax higher than one. Punjab and Haryana, even though developed, have indices less than one. As for Punjab, that State has the higher index for the sales tax on consumer goods, but does not make an intensive use of the taxes on producer goods and petroleum products. Haryana, though it has a high per capita income, seems to make less than average use of sales taxation as a whole.

Table IV.5 EFFECTIVE RATES AND AVERAGE EFFECTIVE RATE OF GENERAL SALES TAX (1973-76)**

State	Tax Revenue (Rs lakh)	Tax Base* (Rs lakh)	Effective Rate (%)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	8949.00	432666.70	2.07	9935.80	0.9007	8
Assam	1701.00	124866.70	1.36	2867.45	0.5932	14
Bihar	6070.67	385780.00	1.57	8859.09	0.6852	13
Gujarat	10026.54	320966.70	3.12	7370.71	1.3603	4
Haryana	2374.69	135354.00	1.75	3108.28	0.7640	11
Karnataka	7280.14	246053.00	2.96	5650.39	1.2884	5
Kerala	6908.90	198800.00	3.48	4565.26	1.5134	2
Madhya Pradesh	6499.67	356043.30	1.83	8176.21	0.7949	10
Maharashtra	22155.67	676447.00	3.28	15534.00	1.4263	3
Orissa	2241.00	171740.00	1.30	3943.85	0.5682	15
Punjab	4811.34	217703.30	2.21	4999.36	0.9624	6
Rajasthan	4839.00	231923.30	2.09	5325.91	0.9086	7
Tamil Nadu	14495.94	380866.70	3.81	8746.26	1.6574	1
Uttar Pradesh	12424.00	723080.00	1.72	16604.88	0.7482	12
West Bengal	9254.33	486219.00	1.90	11165.58	0.8288	9

Average effective rate = 2.30 per cent

* Tax base: State Domestic Product at factor cost.

** Includes tax on motor spirit.

6. Purchase Tax on Sugarcane

4.10 While sugarcane is grown in all the 15 States in small or large quantities, only 10 States levy a tax on this crop. The AER works out to 3.11 per cent (Table IV.6). Maharashtra's effective rate is more than double the AER, while Madhya Pradesh's -- the lowest -- is less than 0.5 per cent. The total yield of the tax in the 10 States in which it is levied is Rs 38.20 crore.

4.11 The simple average of the ERs is lower than the weighted average of the rates (3.21 per cent) because of the relatively low ERs in some States with large bases such as Uttar Pradesh and Tamil Nadu.

Table IV.6 EFFECTIVE RATES AND AVERAGE EFFECTIVE RATE OF PURCHASE TAX ON SUGARCANE (1973-76)

State	Tax Revenue (Rs lakh)	Tax Base* (Rs lakh)	Effective Rate (%)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh (1974-76)	356.50	10336.84	3.45	321.48	1.1089	3
Assam	Nil	1339.65	-	41.66	-	-
Bihar	152.67	4697.21	3.25	146.08	1.0451	4
Gujarat	116.13	2030.61	5.72	63.15	1.8390	2
Haryana	91.00	5758.74	1.58	179.10	0.5081	9
Karnataka	278.19	9177.90	3.03	285.43	0.9746	5
Kerala	8.77	456.93	1.92	14.21	0.6172	8
Madhya Pradesh	7.00	1498.61	0.47	46.61	0.1502	10
Maharashtra	1113.00	17057.77	6.52	530.50	2.0980	1
Orissa	Nil	2357.03	-	73.30	-	-
Punjab	Nil	5270.40	-	163.91	-	-
Rajasthan	Nil	1720.82	-	53.52	-	-
Tamil Nadu	344.72	12468.71	2.76	387.78	0.8890	6
Uttar Pradesh	1351.67	55611.50	2.43	1729.52	0.7815	7
West Bengal	Nil	1396.54	-	43.43	-	-

Average effective rate = 3.11 per cent

* Tax base: Value of sugarcane produced.

7. Entertainment Tax

4.12 Total seating capacity measured in number of seats has been taken as the potential base for this tax. The AER works out to Rs 270 per seat per annum. Punjab has the highest rate at Rs 540 per seat and Kerala the lowest rate at Rs 20 per seat. Among less developed States, Rajasthan and Uttar Pradesh have rates higher than the AER, while Madhya Pradesh has a rate of Rs 250 per seat, i.e., slightly below the AER (Table IV.7).

Table IV.7 EFFECTIVE RATES AND AVERAGE EFFECTIVE RATE FOR ENTERTAINMENT TAX (1973-76)

State	Tax Revenue (Rs lakh)	Tax Base** (Rs lakh)	Effective Rate (%)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	1082.34	726210	150	1960.77	0.5525	13
Assam	142.68	86068*	170	232.44	0.6138	12
Bihar	408.24	172502*	230	465.76	0.8765	8
Gujarat	852.42	312511	270	843.78	1.0102	6
Haryana	334.75	73833*	450	199.35	1.6792	3
Karnataka	716.70	536100	130	1447.47	0.4951	14
Kerala	73.53	389245	20	1050.96	0.0700	15
Madhya Pradesh	597.29	243628*	250	657.80	0.9080	7
Maharashtra	2276.63	546965*	420	1467.31	1.5416	4
Orissa	105.87	61650	170	166.46	0.6360	11
Punjab	499.20	91585*	540	247.28	2.0188	1
Rajasthan	291.52	96666	300	261.00	1.1169	5
Tamil Nadu	1581.77	893566	180	2412.63	0.6556	10
Uttar Pradesh	1479.68	296164	500	799.64	1.3504	2
West Bengal	907.32	414207*	220	1118.36	0.8113	9

Average effective rate = Rs 270 per seat

* Estimates

** Tax base: Total seating capacity.

8. Tax on Motor Vehicles

4.13 If we could have obtained data on yield, separately for trucks and buses, of both the passengers and goods and motor vehicles taxes, we could have computed a combined effective rate per vehicle for trucks and that per passenger kilometer for buses. For other types of vehicles we could have computed the ER per vehicle. Unfortunately, the required break down of the yield is not available. Hence we have been forced to treat the motor vehicle tax separately. In looking at the results, one has to keep in mind the possibility that in the States where the vehicles tax is lower the passengers and goods tax is higher, and conversely.

4.14 For reasons explained in the previous Chapter (section 9), we could not calculate effective rates of motor vehicles tax. We have, therefore, had to resort to the regression technique. Several formulations of the equation were tried and the following equation was chosen as the most satisfactory:

$$MVT = 240.80 + 0.0083^{*} N_1 + 0.0028 N_2 + 0.0032 N_3$$
$$\text{t-ratio} \quad (3.86) \quad (1.07) \quad (0.44) \qquad R^2 = 0.88$$

where:

MVT = Motor vehicles tax in Rs lakh;
N_1 = the number of two-wheelers;
N_2 = the number of three-wheeler, cars and cabs; and
N_3 = the number of buses and trucks.

Although not all the coefficients have turned out to be significant, we have had to make use of this equation because of the lack of a better alternative. The only feasible alternative, viz., calculating the ER of tax per vehicle, clubbing all categories of vehicles together, was rejected as being quite faulty.

4.15 Table IV.8 gives tax revenue, the tax potential and the index of use of potential of motor vehicles tax. Tamil Nadu comes out on top with an index of 1.44, but since the tax collection figure for this State is an estimated one, we may leave it out of the ranking. Next comes Haryana with an index of 1.27, closely followed by Kerala with an almost equal index. The other States with indicies above one are Orissa and Uttar Pradesh. Assam, Madhya Pradesh and Bihar seem to have used their potential of this tax to the least extent.

Table IV.8 INDEX OF USE OF TAX POTENTIAL FOR MOTOR VEHICLES TAX (1974-76)

State	Tax Revenue (Rs lakh)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (4)
(1)	(2)	(3)	(4)	(5)
Andhra Pradesh	991.82*	960.54	1.0326	6
Assam	219.50	424.72	0.5168	15
Bihar	522.00	653.78	0.7984	13
Gujarat	1121.00	1330.25	0.8427	11
Haryana	524.00	413.80	1.2663	2
Karnataka	1414.50	1404.65	1.0070	7
Kerala	796.50	629.43	1.2654	3
Madhya Pradesh	545.00	788.20	0.6914	14
Maharashtra	2178.00	2291.20	0.9506	9
Orissa	518.50	420.92	1.2318	4
Punjab	565.50	692.55	0.8165	12
Rajasthan	632.50	725.46	0.8719	10
Tamil Nadu	1511.91*	1053.60	1.4350	1
Uttar Pradesh	1532.50	1288.29	1.1896	5
West Bengal	980.00	1024.93	0.9562	8

* Estimates

9. Taxes on Passengers and Goods

(a) Passengers and Goods Tax on Private Sector Vehicles. Information on the yield of this tax is not available separately for private trucks and private buses for most of the States. Effective rates have, therefore, been calculated for the two types of vehicles taken together. To the extent that a truck represents a greater potential tax capacity than a bus, taking them together as we have done, tends to understate relatively the taxable capacity of the States in which the proportion of trucks in the total number of private buses and trucks is larger.

4.16 The effective rates range from Rs 8126.8 per vehicle in Haryana to Rs 372.3 in Assam (Table IV.9.1). The wide variations are caused as much, if not more, because of differences in the effectiveness of enforcing the tax, as by differences in the rate schedules or in the compounded levies. The average effective rate works out to Rs 2938 per vehicle. In Haryana, Punjab, Uttar Pradesh and Madhya Pradesh, the effective rates are considerably higher, while in Assam, Orissa and Bihar they are much lower.

Table IV.9.1 EFFECTIVE RATES AND AVERAGE EFFECTIVE RATE OF PASSENGERS AND GOODS TAX ON PRIVATE SECTOR VEHICLES (1974-76)

State	Tax Revenue (Rs lakh)	Tax Base* (Rs lakh)	Effective Rate (%)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	678.81	23677	2867.0	696.10	0.9752	6
Assam	45.47	12213	3372.3	359.06	0.1266	14
Bihar (1972-73)	268.08	24011	1116.5	705.92	0.3798	12
Gujarat (1973-74)	222.93	18063	1234.2	531.05	0.4198	11
Haryana	534.50	6577	8126.8	193.36	2.7643	1
Karnataka	404.17	26304	1536.53	773.34	0.5226	9
Kerala	228.31	18256	1250.6	536.73	0.4254	10
Madhya Pradesh (1973-74)	722.91	18038	4007.7	530.32	1.3632	4
Maharashtra	1138.24	62882	1810.1	1848.73	0.6157	8
Orissa	62.16	8885	699.6	261.22	0.2380	13
Punjab	559.60	8764	6385.2	257.66	2.1718	2
Rajasthan	443.56	17635	2515.2	518.47	0.8555	7
Tamil Nadu	1041.84	27683	3763.5	813.88	1.2801	5
Uttar Pradesh	1592.49	29229	5448.3	859.33	1.8532	3
West Bengal	-	44349	-	1303.86	-	-

Average effective rate = Rs 2938.1 per vehicle

* Tax base: Total number of buses and trucks under private operation as at the end of the financial year.

(b) Passengers Tax on Public Sector Vehicles (Buses). A comparison of the effective rates of tax on passengers paid by public sector buses gives a fairly good idea of the relative extent of use of this tax by the different States, because the bulk of bus passenger traffic has been nationalized in most States. Since data on total passengers kilometers travelled are available, the volume of traffic measured in that way has been taken as the potential base.

4.17 The AER works out to 0.86 paisa per passenger kilometer (Table IV.9.2). Here again Haryana comes out on top with an effective rate of 1.77 paise -- more than double the AER. (However, the yield of this tax in Haryana is only an estimated figure.) Assam has the lowest effective rate of 0.10 paise. 1/ Haryana, Punjab, Rajasthan, Madhya Pradesh, Gujarat and Maharashtra are the only States having effective rates above 0.86 paisa per passenger kilometer.

Table IV.9.2 EFFECTIVE RATES AND AVERAGE EFFECTIVE RATE OF PASSENGERS TAX ON PUBLIC SECTOR VEHICLES (BUSES) (1974-76)

State	Tax Revenue (Rs lakh)	Tax Base** (Rs lakh)	Effective Rate (%)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	784.37	116511.79	0.67	1002.00	0.7828	9
Assam	31.53*	31733.83*	0.10	272.91	0.1155	14
Bihar	181.93	30880.25	0.59	265.57	0.6851	11
Gujarat	1614.07	152658.56	1.06	1312.86	1.2294	5
Haryana	903.51	50965.98*	1.77	438.31	2.0613	1
Karnataka	338.34	139649.07	0.24	1200.98	0.2817	12
Kerala	69.70	68651.00	0.10	590.40	0.1181	13
Madhya Pradesh	489.60	44863.81	1.09	385.83	1.2689	4
Maharashtra	1864.81	178494.16	1.04	1535.05	1.2148	6
Orissa	109.85	15171.38	0.72	130.47	0.8420	7
Punjab	818.91	59172.67	1.38	508.88	1.6092	2
Rajasthan	462.95	37115.95	1.25	319.20	1.4503	3
Tamil Nadu	1130.25*	181439.17	0.62	1560.38	0.7243	10
Uttar Pradesh	743.51	103432.34	0.72	889.52	0.8359	8
West Bengal	Nil	28370.86	-	243.99	-	-

Average effective rate = 0.86 paise per passenger kilometer

* Estimates based on regression equations.
** Tax base: Passenger kilometers.

1/ This very low ER in Assam must be partly due to the State Road Transport Corporation not paying its dues regularly.

10. Electricity Duty

4.18 In this case electricity consumption in a State is taken as the potential base. The AER works out to 2.1 paise per unit; this could be considered fairly low. The range of variation in ER is quite limited. The range between 3 paise per unit and 2.2 paise per unit cover 9 out of the 15 States and the range between 3 paise per unit and 1.6 paise per unit covers 12 out of the 15 States (Table IV.10).

Table IV.10 EFFECTIVE RATES AND AVERAGE EFFECTIVE RATE FOR ELECTRICITY DUTY (1973-76)

State	Tax Revenue (Rs lakh)	Tax Base* (Rs lakh)	Effective Rate (%)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	672.24	25355.40	2.65	537.53	1.2506	4
Assam	37.00	3944.90	0.94	83.63	0.4424	15
Bihar	798.00	27063.70	2.95	573.75	1.3908	2
Gujarat	1076.33	44433.60	2.42	941.99	1.1426	8
Haryana	354.67	13974.80	2.54	296.26	1.1971	5
Karnataka	595.33	37225.70	1.60	789.18	0.7544	12
Kerala	296.33	18227.60	1.63	386.42	0.7668	11
Madhya Pradesh	675.00	27285.10	2.47	578.44	1.1669	6
Maharashtra	2597.00	83938.50	3.09	1779.49	1.4594	1
Orissa	449.33	16728.00	2.69	354.63	1.2670	3
Punjab	513.00	27771.60	1.85	588.75	0.8713	10
Rajasthan	164.33	14700.20	1.12	311.64	0.5273	14
Tamil Nadu	1208.89	55745.40	2.17	1181.80	1.0229	9
Uttar Pradesh	574.33	46048.30	1.25	976.22	0.5883	13
West Bengal	1159.67	46933.20	2.47	994.98	1.1655	7

Average effective rate = 2.12 paise per kWh

* Tax base: Total electricity consumed in the States.

11. State Excise Duty on Liquor

4.19 In Tables A.3.1, A.3.2 and A.3.3 in the Statistical Appendix, we give the ERs and the AERs separately for country spirit, Indian made foreign liquor and beer. It will be seen that the AER is the highest for Indian made foreign liquor and the lowest for beer. As regards total revenue, however, country spirit makes the largest contribution. In regard to country spirit, Punjab has the highest effective rate at Rs 25.50 per L.P. liter and Bihar the lowest at Rs 2.50 per L.P. liter. It is not clear why the ERs vary so

widely as between the States. An attempt was made to see if revenue from this source was closely related to per capita SDP. A regression relating the two, however, indicated that variations in per capita revenue from country spirit had no direct relation to variations in per capita SDP, the regression coefficient being non-significant and the R^2 being very low. It would be interesting to enquire into the causes of these variations.

4.20 A combined AER for the three types of liquor could not be worked out because the units of measurement of the bases differ. Table IV.11 gives the index of use of potential of State excise duty on liquor for the different States. It is seen that Punjab has the highest index at 1.60 and Bihar the lowest index at 0.19.

Table IV.11 INDEX OF USE OF TAX POTENTIAL OF EXCISE DUTY

State	Tax Revenue /a (Rs lakh)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (4)
(1)	(2)	(3)	(4)	(5)
Andhra Pradesh	4395.65	4953.58	0.8874	10
Assam	260.74	270.74	0.9619	7
Bihar	1877.29	9854.99	0.1905	13
Gujarat	Nil	Nil	-	-
Haryana	1058.73	1057.77	1.0009	5
Karnataka	4509.37	5991.02	0.7527	11
Kerala	1454.69	1042.49	1.3954	2
Madhya Pradesh	2844.56	2222.01	1.2802	3
Maharashtra	2398.25	5552.00	0.4320	12
Orissa /b	478.94	478.94	1.0000	-
Punjab	3973.45	2476.85	1.6042	1
Rajasthan	1447.35	1531.70	0.9449	9
Tamil Nadu	5102.08	5114.67	0.9975	6
Uttar Pradesh	3797.19	3138.00	1.2100	4
West Bengal	1897.92	1983.91	0.9567	8

/a Revenue for country spirit, Indian made foreign liquor and beer only.

/b Actual tax collection has been taken as the tax potential, in the absence of data on the potential base, i.e., consumption of exciseable items. Index of use of tax potential has not been included in the ranking.

V. INDEX OF TAX EFFORT AND PER CAPITA TAXABLE CAPACITY

5.01 In the previous Chapter we had compared the ERs of the various taxes in the 15 States studies. Since it is within the discretion of a State to exploit particular sources of revenue to a greater or less extent and since the degree of exploitation of taxes falling on different bases would partly depend on the nature of the economy and the preferences of the citizens, it would not be proper to judge the performance of any State on the basis of the ERs of individual taxes prevailing there. Thus, the comparison of the ERs was intended merely to gain an impression of the relative extent of utilization of various bases in different States. In discussing tax reform or possibilities of raising additional resources in a State, a comparison of the ERs of taxes there with the corresponding AERs would be of help. However, for measuring the tax performance of a State, it is necessary to consider all taxes together. Hence we shall add the potential of all the taxes to derive the taxable capacity of a State.

1. Index of Tax Effort

5.02 In this study the "taxable capacity" of a State has been defined as the amount of revenue it could (would) have raised if it had applied the AERs to its bases, i.e., if it had made the average effort. Accordingly, the ratio of the actual tax revenue to the taxable capacity of a State can indicate whether it is making less or more than average effort. Table V.1 gives the total tax revenue, taxable capacity and index of tax effort of the 15 States. Column 5 of the Table gives the ranking in terms of effort. Only three States, namely Punjab, Kerala and Tamil Nadu, have indices distinctly above the average and four States -- Gujarat, Maharashtra, Haryana and Andhra Pradesh -- have indices just above the average; of these, Andhra Pradesh has an index only one per cent higher than unity and can be said to be an average performer along with Uttar Pradesh which has index of 0.92. The tax performance of the rest of the seven States is shown to be below average.

Table V.1 INDEX OF TAX EFFORT OF STATE GOVERNMENTS

State	Tax Revenue (Rs lakh)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (4)
(1)	(2)	(3)	(4)	(5)
Andhra Pradesh	22959.19	22529.66	1.0191	7
Assam	4613.83	5913.41	0.7802	12
Bihar	13090.91	26950.90	0.4857	15
Gujarat	16637.90	15674.47	1.0615	4
Haryana	7324.92	6846.93	1.0698	6
Karnataka	17300.80	20697.43	0.8359	11
Kerala	12018.60	10561.19	1.1380	2
Madhya Pradesh	15266.31	16866.58	0.9051	9
Maharashtra	40145.50	37472.29	1.0713	5
Orissa	4598.92	6604.10	0.6964	14
Punjab	13418.16	10547.87	1.2721	1
Rajasthan	9882.68	11274.44	0.8766	10
Tamil Nadu	29702.16	27040.93	1.0984	3
Uttar Pradesh	29210.32	31768.51	0.9195	8
West Bengal	16666.77	22945.63	0.7264	13

5.03 The range of variation between the highest and the lowest indices of Punjab and Bihar, respectively, is from 27% to 49%. If Bihar is kept aside, then the variation is from 27% to 33% (for Orissa). Thus, there is no tendency for indices for the different States to cluster around the average, indicating that there are perceptible differences in the performance of the State in the tax field.

5.04 Assam, Bihar, Orissa and Uttar Pradesh are among the poorest or the least advanced States of the Union. But while Bihar and Orissa have the lowest indices, Uttar Pradesh seems to have made considerable effort in spite of its low per capita income. And, Assam with an index nearly equal to 0.8 has done better than West Bengal. (Possibly the availability of plantation income as a base has put Assam in a position of some advantage.)

5.05 Table V.2 brings together the indices of use of the potential of different taxes as well as the indices of overall tax effort for all the States. It is interesting to note that the States with high indices of tax effort are those which have high indices of use of potential of general sales tax, State excise duty, stamps and registration fees and the tax on passengers and goods. One State, namely, Gujarat, with an above average index of tax effort has also a high index of use of potential of motor spirit taxation. These seem to be the taxes which would enable the State governments to exploit their taxable capacity adequately. This is not to say that land revenue or agricultural taxation has no role to play in the exploitation of taxable capacity. However, since the yield of land revenue and non-plantation agricultural income tax is very low in comparison to the commerical taxes or the State excise on liquor, a substantial rise in the rate of land revenue would be required before it can make a significant contribution to the tax effort in a State.

TABLE V.2

Indices of use of Tax Potential and Index of Tax Effort
(1973-76)

State	Land revenue and agricultural income tax	Profession tax	Stamps and registration fees	General sales tax	Sales tax on motor spirit	Purchase tax on sugarcane	Entertainment tax	Motor vehicles tax	Passengers and goods tax	Electricity duty	State excise duty	Index of effort
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
Andhra Pradesh	2.18	-	0.86	1.04	0.50	1.11	0.55	1.03	0.86	1.25	0.89	1.02
Assam	2.11	1.32	0.31	0.47	1.24	-	0.61	0.52	0.12	0.44	0.96	0.78
Bihar	1.04	-	0.98	0.49	1.04	1.05	0.88	0.80	0.46	1.39	0.19	0.49
Gujarat	0.89	-	0.75	1.41	1.19	1.84	1.01	0.84	1.00	1.14	-	1.08
Haryana	0.80	0.72	1.44	0.83	0.73	0.51	1.68	1.27	2.20	1.20	1.00	1.07
Karnataka	0.50	0.30	1.02	1.06	1.67	0.97	0.50	1.01	0.38	0.75	0.75	0.84
Kerala	1.17	0.70	1.48	1.51	0.68	0.62	0.07	1.27	0.26	0.77	1.40	1.14
Madhya Pradesh	1.40	0.80	0.67	0.76	0.58	0.15	0.91	0.69	1.32	1.17	1.28	0.91
Maharashtra	1.09	2.57	0.70	1.54	1.15	2.10	1.54	0.95	0.89	1.46	0.43	1.07
Orissa	0.35	-	0.62	0.62	0.55	-	0.64	1.23	0.44	1.27	1.00	0.70
Punjab	0.22	-	1.94	1.49	0.70	-	2.02	0.82	1.80	0.87	1.60	1.27
Rajasthan	1.22	-	0.50	0.75	1.16	-	1.12	0.87	1.08	0.53	0.94	0.88
Tamil Nadu	0.60	0.51	1.63	1.47	1.70	0.89	0.66	1.44	0.92	1.02	1.00	1.10
Uttar Pradesh	1.05	-	1.04	0.70	1.00	0.78	1.85	1.19	1.34	0.59	1.21	0.93
West Bengal	0.51	-	0.87	0.85	1.10	-	0.81	0.96	-	1.17	0.96	0.72

2. Relative Contributions of Individual Taxes to Tax Effort

5.06 The difference between unity and the effort index for a State would give us the difference between actual revenue (T) of the State and the revenue under the representative rate structure ($\hat{T}$), expressed as a percentage of the latter, because:

$$E_i - 1 = \frac{T_i - \hat{T}_i}{\hat{T}_i} \qquad \ldots\ldots (1)$$

It may be seen that the right-hand term indicates the percentage by which the actual revenue should be increased (reduced) to reach taxable capacity. When the representative tax system approach is adopted, the above identity can be re-written as follows through substitution:

$$E_i - 1 = \frac{\Sigma_j (ER)_{ij} (PB)_{ij} - \Sigma_j (AER)_j (PB)_{ij}}{\Sigma_j (AER)_j (PB)_{ij}}$$

$$= \frac{\Sigma_j (ER_{ij} - AER_j)(PB_{ij})}{\Sigma_j (AER)_j (PB)_{ij}} \qquad \ldots\ldots (2)$$

where PB stands for the potential base. Each term of expansion of the right-hand side indicates the net contribution of a particular tax towards below/above average tax performance of the State concerned.

5.07 We have been able to apply the representative tax system methodology to all but one tax, namely, the tax on motor vehicles. In the case of this tax its relative contribution has been worked out on the basis of the formula (1); in the case of all other cases, the expanded formula (2) has been used.

5.08 The tax effort index and the net contribution of each of these taxes to total tax effort in the different States are given in Appendix Tables A.4.1 to A.4.15. From these Tables one could discern the extent of positive or negative contribution of the different taxes to above or below average performance of each State. For example, if one takes Table A.4.11 for Punjab, one finds that it sperformance is 27.22 percent above the average and to this aboe average perforamnce major contributions have been made by the general sales tax on consumer goods, State excise duty, stamps and registration fees and passengers and goods tax. The main negative contribution has been made by the general sales tax on consumer goods, State excise duty, stamps and registration fees and passengers and goods tax. The main negative contribution has been made by land revenue and agricultural income tax.

If we take a State with a significantly below average performance such as Bihar (Table A.4.3), it is seen that its performance is 51 percent below average and that significant negative contributions are made by State excise duty, sales tax on consumer goods and sales tax on producer goods. Indeed positive contributions of minor magnitudes are made only by a few taxes; land revenue and agricultural income tax (0.20), electricity duty (0.84), sales tax on motor spirit (0.08) and purchase tax on sugarcane (0.02).

3. Deficiency in Taxable Capacity

5.09 Some interest attaches to the question of measuring the deficiency in taxable capacity, if any, of different State governments. One way of measuring the per capita deficiency in capacity is to apply the standard or average tax ratio (for all the States) to the deviation of the per capita income of a State from average per capita income. Another method, that was followed by the Seventh Finance Commission, is to derive the per capita revenue potential of each State by regressing per capita revenues on per capita incomes. The distance of the per capita revenue thus estimated for a State from the maximum estimated per capita revenue can be taken as a measure of the deficiency in the per capita revenue capacity (Finance Commission, 1978, p. 87). In the present exercise the relative taxable capacities of different States have been directly estimated. Hence, the deficiency in per capita taxable capacity of a given State can be measured as the difference between the per capita taxable capacity of that State and average taxable capacity.

5.10 Table V.3 gives the figures of per capita taxable capacity of the States together with their deviations from average taxable capacity. It is seen that Punjab has the highest per capita taxable capacity at Rs 71.9 and Orissa, the lowest at Rs 27.6, the average per capita taxable capacity being Rs 49.2. It may be noted that the ranking in terms of per capita taxable capacity is not the same as the ranking in terms of index of tax effort. It is true that Punjab has the highest index of tax effort as well as the highest per capita taxable capacity among the States. However, States such as Karnataka and West Bengal which are fairly high up in terms of per capita taxable capacity have low rankings in terms of tax effort. Besides, Uttar Pradesh has a higher ranking in terms of effort than in terms of per capita taxable capacity.

Table V.3 ESTIMATES OF DEFICIENCY IN THE PER CAPITA TAXABLE CAPACITY (1973-76)

State	Taxable Capacity (TC) (Rs lakh)	Population (POP) (in lakh)	Per Capita Taxable Capacity (Rs)	Deficiency (TC/POP - Rs 4915) (Rs)
(1)	(2)	(3)	(4)	(5)
Andhra Pradesh	22529.66	471.00	47.83	- 1.32
Assam	5913.41	170.13	34.76	-14.39
Bihar	26950.90	607.49	44.36	- 4.79
Gujarat	15674.47	295.81	52.99	+ 3.84
Haryana	6846.93	109.92	62.29	+13.14
Karnataka	20697.43	318.38	65.01	+15.86
Kerala	10561.19	234.59	45.02	- 4.13
Madhya Pradesh	16866.58	461.00	36.59	-12.56
Maharashtra	37472.29	551.95	67.89	+18.74
Orissa	6604.10	239.14	27.62	-21.53
Punjab	10547.87	146.70	71.90	+22.75
Rajasthan	11274.44	283.88	39.72	- 9.43
Tamil Nadu	27040.93	446.47	60.57	+11.42
Uttar Pradesh	31768.51	947.04	33.55	-15.60
West Bengal	22945.63	486.47	47.17	- 1.98

Average per capita taxable capacity = Rs 49.15

VI. IRRIGATION RATES AND ELECTRICITY TARIFF

6.01 In this chapter, the systems and structure of irrigation rates and electricity tariff prevailing in the States are briefly described and an attempt is made to work out rates of changes and tariff that can be compared across the States. As stated in the introductory chapter the charges for water and electricity are in the nature of prices for goods supplied and cannot, therefore, be included in the calculation of tax effort. However, some purpose can be served by comparing the methods employed by different States in charging for water supply and the structures of their electricity tariff. If the rates and charges in the different States are placed on a comparable basis one could study the causes and justification for variations in them.

1. Irrigation Rates

6.02 Irrigation works in India are generally classified as Major, Medium and Minor. Projects costing less than Rs 25 lakhs are classified as Minor. Schemes which cost less than Rs 5 crore but more than Rs 25 lakhs are put in the category of Medium irrigation schemes, while those which cost more than Rs 5 crore are classified as Major works. For Major works, separate and detailed capital and revenue accounts are maintained; such accounts are not maintained for Minor works.

6.03 Minor irrigation works are mostly private in nature and serve only a limited area. On the other hand, Major and Medium works are taken in the State sector.

6.04 All public irrigation works are theoretically expected to contribute to the general revenues of the State through an excess of irrigation charges over the cost of the projects. Since Independence, a progressive deterioration is seen to have taken place in the financial returns from irrigation schemes. Several factors have contributed to this state of affairs. First, construction costs of projects have gone up tremendously owing to more and more expensive storage works with large dams being undertaken. Secondly, rising prices have also pushed up the costs of construction, maintenance and operation of irrigation works. Finally, while there is considerable lag in the utilization of the potential created by new projects, interest liabilities arise as soon as investments are made. In the light of the above factors, water rates should be fixed to cover rising costs, if adequate returns are to be obtained. But in most of the States, it is observed, rates are not fixed with this objective in view.

6.05 Depending on whether the source of water is above or below the field surface, irrigation could be classified into lift irrigation and flow irrigation. Under the former water is to be raised and lifted from its source to the field surface; under the latter water reaches the lands to be irrigated from the source by gravity flow. Thus, canal irrigation is mainly flow irrigation, whereas utilization of groundwater through wells using pumps and other means of lifting water and canal pumping schemes to fall under lift irrigation.

(a) Schemes of Water Charges. Different principles and methods of determining charges for the supply of water from irrigation works prevail in the different States. Some of the major factors that appear to have been taken into account for this purpose include the type of the irrigation system, the fertility of the soil, the nature of crops grown, the seasons during which water is to be supplied and the cost of the project.

6.06 We present below a brief description of the systems of water charges prevailing in the States covered by our study.

(i) Andhra Pradesh: Lands in the State are classified into wet and and dry lands. On wet lands, a consolidated wet assessment of land revenue is charged. This wet assessment can be thought of as comprising elements of land revenue proper and a charge for irrigation. In the case of wet assessment lands, no separate water charge is leviable on a single crop; however, for subsequent crops grown by using water from a government source of irrigation, there is a charge.

A separate water rate is levied in the case of crops grown on dry lands using water from a government source. Two systems of charging water rates are in existence: The fixed water rate system in which water rates are fixed according to the nature of the crop and the type of irrigation source, and the differential water rates system under which the difference between wet and dry assessments is charged.

(ii) Bihar: Irrigation systems in the State can be placed under three categories. They are: (a) Non-perennial canal irrigation; (b) Perennial canal irrigation; and (c) Well/Lift irrigation. Different rates in respect of these three systems have been specified for each of the three seasons, namely, kharif, rabi and hot weather, and vary according to the type of lease. In regard to hot weather crops, different rates are applicable to sugarcane, jute and "other crops".

(iii) Gujarat: In this State, water rates for government owned tubewells are charged according to the crops grown on a volumetric basis. A minimum flat rate of Rs 2 per acre is charged regardless of the crop and quantum of the water consumed.

For flow irrigation, per acre rates are charged according to crops grown which can be grouped into the following rate categories:

(a) Kharif season crops including short and long term paddy, bajri (bajara), bavtu, kodu, jowar (barley), maize and other kharif food crops and groundnuts;

(b) Rabi season crops including short and long term wheat, chana, jeeru (jeera), fennel seed, isabgual, cheno, and other rabi food crops;

(c) Hot weather crops including bajri, jowar, groundnuts, grass and other hot weather food crops;

(d) Two-season crops including cotton, biri leaves, and tobacco; and

(e) Sugarcane (perennial crop).

(iv) Haryana: In the case of tubewells, the water rate is charged on the basis of electricity consumed. In respect of canal irrigation rates differ according to crops grown and according to the type of irrigation, namely, lift or flow irrigation. Under the Bhakra Canal project and the Western Canal system, crops are grouped into eleven rate categories, whereas under the Lower Chautang Nalla Canal system three rate categories of crops are laid down. In all the three systems both flow and lift irrigation exists. Under the first two systems, the rates of flow irrigation are twice of those for lift irrigation; and under the third system, the rates for the former are one and one half times of those for the latter.

(v) Karnataka: Water rates are charged in this State according to crops grown, the rates also being different as between lift and flow irrigation. For the purpose of charging water rates, the crops are divided into five categories. Prior to 1.7.1976 the same rates applied to flow and lift irrigation. Since that date, higher rates have been prescribed for lift irrigation at 200 per cent more than the flow irrigation rates for sugarcane and paddy and at 100 per cent more for other crops. Apart from these rates, a water cess is also levied at Rs 4 per acre per annum to cover the cost of maintenance of irrigation works.

(vi) Kerala: The rates of irrigation charges in this State depend upon the type of land and the number of crops grown in a year. The rates are specified in terms of amounts payable per acre; the lowest rate is charged for land on which only paddy crop could be raised and the highest rate is charged on land which is registered as wet land and on which more than two crops could be raised.

(vii) Madhya Pradesh: In this State, water rate for flow irrigation is charged on the basis of the area irrigated, whereas for lift-irrigation it is charged on a volumetric basis. Rates are differentiated according to the type of crop grown and the type of agreement (long lease, etc.). Besides, the State is divided into two zones for purposes of irrigation charges. In the kharif zone where 5-year agreements are popular, a cultivator has to pay water rate regardless of whether he takes irrigation water or not. In the mixed crop zone, irrigation is provided on an annual agreement basis and if the Department is not in a position to supply water to the cultivators in a year remission of charges is granted.

Water rate for lift irrigation is double the rate of flow irrigation when the lift arrangements are made by the Government. If mechanical pumps are installed by private agencies then the rate charges is half the rate for flow irrigation, and when some manual device is used the rate is one-fourth of the flow irrigation rate.

(viii) Maharashtra: In this State, water rates for flow irrigation are charged as a fixed percentage of gross income from different crops. These rates are fixed keeping in view the volume of water supplied, the capacity of the farmer to pay and the level of gross income obtained from particular crops under usual conditions of fertility and productivity. The objectives of recording total annual costs of providing water and ensuring that no part of irrigation potential remains unutilized are also kept in view. The rates vary from 6 per cent of gross income for food and non-cash crops to about 12 per cent of gross income for cash crops. In respect of government-owned and operated lift irrigation schemes the rates are fixed so as to cover costs, that is, interest charges, amortization of loans from the banks, maintenance and repair charges and the cost of electricity.

For crops such as sugarcane and plantain rates are fixed on a yearly basis, whereas in the case of seasonal crops the rates are fixed season-wise.

In respect of some crops under flow irrigation different rates are charged for the kharif and rabi seasons. Such seasonal differentiation also prevails in respect of lift irrigation.

(ix) Orissa: In this State, two kinds of water rate are in force in respect of flow irrigation: (a) compulsory basic water rate for kharif crops; and (b) water rate for rabi crop. The basic water rate is a prescribed rate per acre within the cultivable command area of a project and is payable irrespective of whether water is used or not. The rates vary according to the classification of the water source. For this purpose, irrigation works have been divided into four classes on the basis of the capacity and guaranteed

depth of supply during the period of growth of the kharif crop. Water rates for rabi crops, that is, crops other than staple cereal crops, have been fixed keeping in view the requirement of water for raising different types of rabi crops; and the rate prescribed per acre differs from crop to crop.

The lift irrigation projects originally belonging to the State government have been transferred to a Corporation for operation and maintenance. The Corporation charges water rates based on the nature of the crop. These rates are prescribed by the State government on the basis of water requirements of different crops. Lift irrigation rates are higher than flow irrigation rates in respect of rabi crops. For kharif paddy, a fixed rate per acre per annum is charged.

(x) Punjab: Water rates in this State are levied at prescribed rates per acre. The rates vary for different crops according to the quantum of water required. Also, the rates vary from one canal system to another among the five major existing canal systems. Under all the systems, the rates for sugarcane are the highest and the rates for wheat and gram are the lowest (excluding gram grown in the rabi season). The rates for flow irrigation are double those for lift irrigation. Different rates have been prescribed for the following crops: sugarcane, water nuts, rice, indigo, other dyes, spices and drugs, cotton, gardens and orchards, vegetables (excluding rabi crops), melon, fibres, maize, kharif oil seeds, wheat and gram, and bajra and pulses.

(xi) Rajasthan: In this State, a distinction is made between canal irrigation and tank irrigation (lift irrigation). Different rates are prescribed in amounts per acre for different crops classified into 10 rate categories. The highest rate is for sugarcane and the lowest for "palewa".

Water rates are higher for flow irrigation than for lift irrigation.

(xii) Tamil Nadu: In this State, lands are generally classified into wet and dry categories. For both types of lands, project-wise rates and water cess are prescribed.

Wet lands enjoying unfailing supply of water from government sources of irrigation for two crops are registered as double crop wet lands. The second crop is charged at half of the first crop assessment. A system of compounding exists for wet lands for which the supply of water is not continuous.

In respect of dry lands, a water cess is levide whenever water is supplied for purpose of irrigation from any government source. Standard rates of water cess have been prescribed for the crops classified into the following three categories:

(a) Sugarcane, betel, plantain, turmeric and elephant yarm;

(b) Crops which require water for more than six months; and

(c) Other crops.

(xiii) Uttar Pradesh: The canals in this State are classified into four categories and different rates per acre are levied in the four systems for different crops grown. The rates vary according to the system as well as according to the crops. Forthis purpose, the crops grown in the State are classified into 11 groups. In the canal system, the rates applicable to lift irrigation are half of those applicable to flow irrigation.

6.07 From April 1, 1977, water rates for irrigation by State tubewells are charged on a volumetric basis and vary between the seasons April-October and November-March.

(xiv) West Bengal: In this State in regard to surface water irrigation, the water rates are levied by the Irrigation and Waterways Department under the provisions of the West Bengal Irrigation (Imposition of Water Rates) Act, 1974. The rates are levied in amounts per acre according to the season of water supply, that is, kharif, rabi and summer.

Ceiling rates have been laid down for the different seasons. In fixing the ceiling rates, maintenance and operation cost, interest payable to Government of India and depreciation at the rate of 2 1/2 per cent have been taken into account. In practice, these ceiling rates have not been put into effect; instead reduced rates have been actually charged. The main ground for doing this is the consideration that surface irrigation rates should as far as possible be equal to the rates charged for minor irrigation.

The Agriculture and Community Development (Agriculture) Department supplies water to farmers from tubewells, river lift scheme and tanks. For supply of water from deep and shallow tubewells and river lift installations operated at government cost, different water rates have been fixed for different crops. The rate of a crop a represents roughly 50 per cent of the cost of the supply as prevailing in the year 1970-71.

b. Comparison of irrigation rates. Given the heterogeneity of the systems of water rates prevailing in different States, it is extremely difficult to make a meaningful comparison of the levels of rates charged in them. Crop-wise rates cannot be compared because often there is additional differentiation on the basis of source of irrigation. While some States have put into effect a simple system of charging water rates, others have complicated ones which depend upon the source of irrigation, the nature of irrigation, crops grown and the season of water supply.

6.08 For the present purpose, we have simply worked out the ratio of receipts from irrigation to the net area irrigated from government sources in a State. This gives us revenue per hectare of irrigated area. Table VI.1 gives the effective rates of irrigation revenue per hectare prevailing in the different States in 1973-76. It is observed that if per hectare rates are compared there is wide variation among the States. The rate per hectare is the highest in Gujarat and the lowest in West Bengal. (Andhra Pradesh is not given any ranking because part of the charge for irrigation in that State is collected in the form of wet assessment of land revenue.)

Table VI.1 GROSS REVENUE PER HECTARE FROM IRRIGATION WORKS OF STATE GOVERNMENTS

State	Revenue From Irrigation (Rs lakh)	Net Area Irrigated by Government Sources (lakh ha)	Revenue per Hectare (Rs)	Ranking in terms of (4)
(1)	(2)	(3)	(4)	(5)
Andhra Pradesh	143.09	33.55	4.26	-
Bihar	606.99	14.53	41.77	3
Gujarat	389.68	3.19	122.16	1
Haryana	638.94	16.97	37.65	6
Karnataka	384.54	12.91	29.97	8
Kerala	71.78	1.88	38.30	5
Madhya Pradesh	413.16	8.98	46.01	2
Maharashtra	540.08	15.88	34.01	7
Orissa	231.02	8.68	26.62	11
Punjab	595.11	20.23	29.42	9
Rajasthan	708.53	25.24	28.07	10
Tamil Nadu	205.27	16.97	13.32	12
Uttar Pradesh	1914.63	49.06	39.03	4
West Bengal	92.06	20.73	4.44	13

Sources: 1. The Budgets of the State Governments for Column (2).

2. Memoranda submitted by the State governments to the Seventh Finance Commission for Column (3).

6.09 It would have been useful to compare also the cost per hectare of providing irrigation in the different States, preferably with the breakdown for canal irrigation and tubewell irrigation. We could not, however, get the requisite information for working out the costs even for canal irrigation.

2. Electricity Tariff

6.10 Electricity could be generated in thermal stations by using coal or oil as fuel or in hydro-electric stations by utilizing water power or in power stations utilizing atomic energy. These methods of generation involve widely varying investments and operating costs. Thermal plants have high investments as well as operating costs while hydel plants have high investment costs but relatively low operating costs. In the earlier stages of power development in the country, there was no systematic evaluation of choices available in regard to methods of power generation for selecting the optimal mix. Wherever hydel potential was easily exploitable, hydro-electric power stations were established and thermal stations came up mainly in areas where coal was in abundant supply or could be transported to the site at a low cost.

6.11 Table VI.2 gives the percentage of shares of different modes of power generation in the States. Thermal plants using coal are the main source of power generation in Andhra Pradesh, Bihar, Gujarat, Madhya Pradesh, and West Bengal, whereas the bulk of power is generated through the hydro process in Orissa, Punjab, Rajasthan, and Tamil Nadu. In Assam, oil and natural gas are used for generating power. In Karnataka and Kerala, power is generated predominantly through hydro plants.

6.12 Since costs of power generation differ as between thermal and hydro electric plants (these being the two main modes of power generation) and since the mix of the two types of generation varies from State to State, the cost per unit of electricity produced and supplied also differs as between States. Therefore, the different State Electricity Boards, who are the main generators and suppliers of electric power, cannot be expected to fix electricity tariff at more or less uniform levels.

Table VI.2 SOURCES OF POWER GENERATION IN THE STATES

State (1)	Steam (2)	Hydro (3)	Diesel (4)	Total (5)
Andhra Pradesh	76.13	23.80	0.07	100.00
Assam	12.40	25.54	62.06	100.00
Bihar	99.62	0.31	0.07	100.00
Gujarat	89.09	10.91	Nil	100.00
Haryana	-	-	-	-
Karnataka	Nil	100.00	Nil	100.00
Kerala	Nil	100.00	Nil	100.00
Madhya Pradesh	77.83	22.17	Nil	100.00
Maharashtra	51.08	48.92	Nil	100.00
Orissa	45.67	54.33	Nil	100.00
Punjab	6.10	93.09	0.81	100.00
Rajasthan	29.03	70.97	Nil	100.00
Tamil Nadu	68.77	31.11	0.13	100.00
Uttar Pradesh	23.85	76.15	Nil	100.00
West Bengal	94.99	4.64	0.37	100.00

Source: Memoranda submitted by the State governments to the Seventh Finance Commission.

6.13 Table VI.3 gives the rates of electricity tariff for different categories of consumers in the States. The average rate for commercial lights and fans comes out to be the highest and the rate for large industry the lowest. In regard to charges for lights and fans, Andhra Pradesh, Assam, Bihar, Karnataka, Rajasthan, Tamil Nadu and West Bengal have rates significantly higher than the average. In regard to the charge for electricity used in agricultural operations, all but one State has a rate less than 20 paise per unit and only Gujarat, Haryana, Maharashtra, Uttar Pradesh and West

Bengal have rates higher than the average. As regards industries, higher than average rates are charged by Andhra Pradesh, Bihar, Gujarat, Rajasthan, Tamil Nadu, and West Bengal. From the above figures it can be inferred that variations in electricity tariff between the States exist not only because of differences in the costs of generation and transmission but also because of differences in policies in regard to fixing charges for the various categories of consumers.

Table VI.3 CATEGORY-WISE RATES OF ELECTRICITY TARIFF (1973-76)
(Paise/kWh)

State (1)	Domestic Lights & Fans (2)	Commercial Lights & Fans (3)	Tax Agriculture (4)	Small Industry (5)	Large Industry (6)
Andhra Pradesh	38.00	59.33	17.22	25.79	20.02
Assam	40.67	46.00	15.00	18.00	14.97
Bihar	40.00	44.58	16.07	20.61	16.84
Gujarat	30.10	31.04	19.29	20.73	15.45
Haryana	24.50	37.47	19.51	17.92	11.34
Karnataka	33.89	48.50	14.48	15.24	8.87
Kerala	35.55	38.00	9.00	15.00	9.54
Madhya Pradesh	28.45	34.00	15.00	17.83	12.14
Maharashtra	31.00	35.00	19.33	19.33	12.11
Orissa	30.17	30.46	16.17	18.23	13.33
Punjab	24.46	34.15	15.32	14.84	10.54
Rajasthan	39.45	50.16	18.43	21.24	15.10
Tamil Nadu	35.00	62.25	13.04	26.90	22.15
Uttar Pradesh	34.17	44.17	19.50	21.33	14.42
West Bengal	40.33	43.67	24.33	24.00	15.27
Average	33.72	42.58	16.78	19.80	14.14

6.14 Table VI.4 gives average revenue per unit of electric power sold to different States. Revenue per unit is above 20 paise in Andhra Pradesh, West Bengal, Bihar, Uttar Pradesh, Tamil Nadu and Gujarat; it is less than 15 paise in Karnataka, Kerala, Orissa and Punjab. The remaining States get around 17-18 paise per unit. These variations may perhaps be explained largely by differences in the costs of generation. However, it is known that slackness in collection at the administrative level and unwillingness to charge economic rates also play a role in low realization per unit of power sold.

Table VI.4 REVENUE PER UNIT OF STATE ELECTRICITY BOARDS

State	Revenue per Unit of Power Sold Paise per kWh
Andhra Pradesh	25.58
Assam	17.77
Bihar	23.57
Gujarat	20.42
Haryana	17.76
Karnataka	14.73
Kerala	12.08
Madhya Pradesh	19.24
Maharashtra	17.17
Orissa	12.35
Punjab	12.73
Rajasthan	17.48
Tamil Nadu	21.16
Uttar Pradesh	22.97
West Bengal	23.46

Source: Memoranda submitted to the Seventh Finance Commission by the State governments.

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SOURCES OF DATA

1. The accuracy of measurement of tax effort of the States would depend to a great extent on the quality of data used. In collecting data for the project we encountered several problems. These problems range from the incompleteness of data on particular items to the lack of comparability among the States of the available data on other items. In Chapter IV we have discussed the methods adopted to cope with problems created by the non-availability or incompleteness of data. In this appendix we merely mention the sources for the basic data used in the study.

2. Tax collection series are mainly taken from the Budgets of the State governments. Data on potential bases have been collected both from published sources and from Departmental records. We list below mainly published sources used by us.

1. Tax Revenues

(a) Land revenue. Data on arrears of land revenue collections were taken from the Memoranda submitted by the State governments to the Seventh Finance Commission.

(b) Passengers and goods tax. The amount of passengers tax paid by the nationalized sector has been collected from the State Road Transport Corporations of the various States.

(c) Profession Tax. The figures of collections of profession tax in Kerala and Tamil Nadu were obtained from the Finance Departments.

2. Potential Bases

(a) State domestic product and its components. Data on State domestic product and its components have been taken from the Reserve Bank of India Bulletin April, 1978 as well as from the Central Statistical Organization.

(b) Income from plantations. Information on income for plantations in Karnataka and Kerala was collected from the concerned Departments of the State governments. The corresponding figure for Assam has been taken from the Institute's records (the date originally supplied by the Government of Assam).

(c) Value of property in relation to stamps and registration. Data on the value of property transferred were obtained from the offices of the Inspector General (Registration) of the State Governments.

(d) Consumption data. Estimates of cash consumption expenditure of households in 1973-74 were obtained from 28th Round of NSS, carried out during the period October 1973 to June 1974.

(e) Consumption of petroleum products. Quantities of various petroleum products consumed in the different States are taken from Economics and Statistical Division, Ministry of Petroleum, 1975. Indian Petroleum and Petro Chemicals Statistics, New Delhi. Zonal prices for these products are also taken from the same source.

(f) Sugarcane. Quantities of production of sugarcane in the States have been taken from "Ministry of Agriculture, Government of India, Bulletin of Food Statistics (various issues). Prices of sugarcane have been taken from C.S.O., Statistical Abstracts of India for the years 1972, 1974 and 1975.

(g) Cinema houses. Information on the number of cinema houses in the different States and on their seating capacity was supplied by the concerned Departments of the State governments.

(h) Motor vehicles. The numbers of various types of motor vehicles registered in the States have been taken from Motor Transport Statistics - an annual publication of the Transport Research Division, Ministry of Shipping and Transport Government of India.

(i) Passenger traffic. Information of the volume of passenger traffic in the nationalized sector in the different States has been supplied by the respective State Road Transport Corporations.

(j) Electricity consumption. Data on the consumption of electricity by various categories of users in the different States have been taken from Central Electricity Authority, Public Electricity Supply - All India Statistics - A General Review (1973-74, 1974-75 and 1975-76).

(k) Consumption of liquor. Data on the consumption of various categories of liquor subject to State excise duty have been obtained from the offices of the Excise Commissioners of the State governments.

STATISTICAL TABLES

Table A.1 TAX EFFORT AND TAX RATIO (1973-76)

State (1)	Effort Index (2)	Ranking (3)	Tax Ratio (4)	Ranking (5)
Andhra Pradesh	1.02	7	0.0492	8
Assam	0.78	12	0.0358	13
Bihar	0.49	15	0.0436	9
Gujarat	1.06	4	0.0525	7
Haryana	1.07	6	0.0541	6
Karnataka	0.84	11	0.0703	1
Kerala	1.14	2	0.0580	5
Madhya Pradesh	0.91	9	0.0423	11
Maharashtra	1.07	5	0.0593	4
Orissa	8.70	14	0.0240	15
Punjab	1.27	1	0.0616	3
Rajasthan	0.88	10	0.0426	10
Tamil Nadu	1.10	3	0.0647	2
Uttar Pradesh	0.92	8	0.0404	12
West Bengal	0.73	13	0.0343	14

Table A.2 EFFECTIVE RATES AND AVERAGE EFFECTIVE RATE OF STAMPS DUTY AND REGISTRATION FEES (1973-76)

State	Tax Revenue (Rs lakh)	Tax Base* (Rs lakh)	Effective Rate (%)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	1306.26	15368.31	5.15	1374.96	0.9500	9
Assam	134.58	13497.37**	1.00	731.56	0.1840	15
Bihar (1973)	1225.29	20257.67	6.05	1097.97	1.1160	7
Gujarat	843.15	11680.41	7.22	633.08	1.3318	4
Haryana (1973-75)	653.74	8493.30	7.70	640.34	1.4201	2
Karnataka	830.77	18489.87	4.76	1002.15	0.8789	11
Kerala	1029.75	21957.46	4.69	1190.09	0.8653	12
Madhya Pradesh	839.95	12748.45	6.59	690.97	1.2156	5
Maharashtra (1973)	1437.90	25124.72	5.72	1361.76	1.0559	8
Orissa	371.60	10524.45	3.53	570.43	0.6514	13
Punjab	1480.83	23399.26	6.33	1269.24	1.1676	6
Rajasthan	404.92	17094.47**	2.37	926.52	0.4370	14
Tamil Nadu	2175.29	43675.35	4.98	2367.20	0.9189	10
Uttar Pradesh (1974-75)	2765.28	35787.77	7.73	1939.70	1.4256	1
West Bengal (1973-74)	1321.53	17835.59	7.41	966.69	1.3671	3

Average effective rate = 5.42 per cent

* Tax base: Value of property (movable and immovable) transferred in the State.

** Estimates.

Table A.3.1 EFFECTIVE RATES AND AVERAGE EFFECTIVE RATE OF STATE EXCISE DUTY (COUNTRY SPIRIT) (1973-76)

State	Tax Revenue (Rs lakh)	Tax Base* (Lakhs of London proof litres)	Effective Rate (Rs per London proof litres)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	3953.75	309.73	12.76	4511.68	0.8763	9
Assam	191.28	13.84	13.82	201.60	0.9488	6
Bihar	1686.74	663.47	2.54	9664.44	0.1745	12
Gujarat	Nil	Nil	Nil	-	-	-
Haryana	692.58	52.43	13.20	763.72	0.9069	8
Karnataka	3891.29	351.30	11.07	5117.21	0.7604	10
Kerala	968.35	38.18	25.36	556.15	1.7412	2
Madhya Pradesh	2418.73	127.02	19.04	1850.24	1.3073	3
Maharashtra	1205.27	238.19	5.06	3469.59	0.3474	11
Orissa	415.77	-	-	415.77	-	-
Punjab	3009.16	117.96	25.51	1718.20	1.7513	1
Rajasthan	1269.51	87.19	14.56	1270.05	0.9996	5
Tamil Nadu	4651.36	-	-	4654.36	-	-
Uttar Pradesh	2992.54	163.40	18.31	2380.17	1.2573	4
West Bengal	1412.58	104.37	13.53	1520.31	0.9291	7

Average effective rate = Rs 14.5665 per LPL

* Tax base: Total consumption of country spirit in the State.

Table A.3.2 EFFECTIVE RATES AND AVERAGE EFFECTIVE RATE OF STATE EXCISE DUTY (INDIAN MADE FOREIGN LIQUOR) (1973-76)

State	Tax Revenue (Rs lakh)	Tax Base* (Lakhs of proof litres)	Effective Rate (Rs per proof litre)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	366.16	-	-	366.16	-	-
Assam	68.97	-	-	68.97	-	-
Bihar	190.55	-	-	190.55	-	-
Gujarat	Nil	-	-	-	-	-
Haryana (1973-75)	301.00	10.81	27.84	244.57	1.2307	3
Karnataka	471.65	14.34	32.89	324.44	1.4537	1
Kerala	475.12	-	-	475.12	-	-
Madhya Pradesh	203.84	15.63	13.04	353.62	0.5764	8
Maharashtra	1134.56	67.73	16.75	1532.37	0.7404	7
Orissa	63.17	-	-	63.17	-	-
Punjab	888.67	29.81	29.81	674.44	1.3176	2
Rajasthan (1973-75)	170.42	9.56	17.82	216.29	0.7879	6
Tamil Nadu (1973-74)	392.89	-	-	392.89	-	-
Uttar Pradesh	577.78	30.56	18.90	691.41	0.8357	5
West Bengal (1974-76)	368.70	15.41	23.92	348.65	1.0575	4

Average effective rate = Rs 22.6247 per PL

* Tax base: Total consumption of Indian made foreign liquor in the States.

Table A.3.3 EFFECTIVE RATES AND AVERAGE EFFECTIVE RATE OF STATE EXCISE DUTY (BEER) (1973-76)

State	Tax Revenue (Rs lakh)	Tax Base* (Lakhs of bulk litres)	Effective Rate (Rs per bulk litre)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(5)	Ranking in terms of (6)
(1)	(2)	(3)	(4)	(5)	(6)	(7)
Andhra Pradesh	75.74	-	-	75.74	-	-
Assam	0.17	-	-	0.17	-	-
Bihar	Nil	-	-	-	-	-
Gujarat	Nil	-	-	-	-	-
Haryana (1973-75)	65.15	15.60	4.17	49.48	1.3167	2
Karnataka	146.43	173.20	0.84	549.37	0.2665	6
Kerala	11.22	-	-	11.22	-	-
Madhya Pradesh	18.15	-	-	18.15	-	-
Maharashtra	58.42	173.41	0.33	550.04	0.1062	8
Orissa	Nil	-	-	-	-	-
Punjab	75.62	26.53	2.85	84.15	0.8986	4
Rajasthan (1973-75)	7.42	14.30	0.51	45.36	0.1636	7
Tamil Nadu (1973-74)	57.83	22.20	2.60	70.42	0.8212	5
Uttar Pradesh	226.87	20.96	10.82	66.48	3.4126	1
West Bengal	116.64	36.24	3.21	114.95	1.0147	3

Average effective rate = Rs 3.1719 per BL

* Tax base: Total consumption of beer in the States.

Table A.4.1 TAX EFFORT INDEX AND NET CONTRIBUTION OF EACH TAX: ANDHRA PRADESH (1973-76)

	Tax	Tax Revenue (Rs lakh)	Tax Potential (Rs lakh)	Index of Use of Tax Potential	Net Contribution to Above or Below Average Performance
	(1)	(2)	(3)	(2)/(3) (4)	(%) (5)
1.	Land revenue and agricultural income tax	3477.00	1597.08	2.1771	+8.34
2.	Profession tax	264.20	264.20	1.0000	-
3.	Stamps and registration fees	1306.26	1514.33	0.1134	-0.92
4.	General sales tax				
	(i) Consumer goods	5644.57	5729.00	0.9819	-0.37
	(ii) Producer goods	2994.19	2369.02	1.2077	+2.77
5.	Sales tax on motor spirit	310.24	624.03	0.4972	-1.39
6.	Purchase tax on sugarcane	356.50	321.48	1.1089	+0.16
7.	Entertainment tax	1083.34	1960.77	0.5525	-3.89
8.	Motor vehicles tax	991.82	960.54	1.0326	+0.14
9.	Passenger and goods tax				
	(i) Passenger and goods tax (private sector)	678.91	696.10	0.9752	-0.08
	(ii) Passenger tax (public sector)	784.37	1002.00	0.7828	-0.97
10.	Electricity duty	672.24	537.53	1.2506	+0.60
11.	State excise duty	4395.65	4953.58	0.8874	-2.48
	Total	22959.19	22529.66	1.0191	+1.91

Table A.4.2 TAX EFFORT INDEX AND NET CONTRIBUTION OF EACH TAX: ASSAM (1973-76)

Tax (1)	Tax Revenue (Rs lakh) (2)	Tax Potential (Rs lakh) (3)	Index of Use of Tax Potential (2)/(3) (4)	Net Contribution to Above or Below Average Performance (%) (5)
1. Land revenue and agricultural income tax	1999.33	948.24	2.1085	+ 17.77
2. Profession tax	42.00	31.88	1.3174	+ 0.17
3. Stamps and registration fees	134.58	437.03	0.3079	- 5.11
4. General sales tax				
(i) Consumer goods	900.22	2093.73	0.4300	- 20.18
(ii) Producer goods	464.44	446.48	1.0402	+ 0.30
5. Sales tax on motor spirit	336.34	270.89	1.2416	+ 1.11
6. Purchase tax on sugarcane	Nil	41.66	-	- 0.70
7. Entertainment tax	142.68	232.44	0.6138	- 1.52
8. Motor vehicles tax	219.50	424.72	0.5168	- 3.47
9. Passenger and goods tax				
(i) Passenger and goods tax (private sector)	45.47	359.06	0.1266	- 5.30
(ii) Passenger tax (public sector)	31.53	272.91	0.1155	- 4.08
10. Electricity duty	37.00	83.63	0.4424	- 0.79
11. State excise duty	260.74	270.74	0.9619	- 0.17
Total	4613.83	5913.41	0.7802	- 22.27

Table A.4.3 TAX EFFORT INDEX AND NET CONTRIBUTION OF EACH TAX: BIHAR (1973-76)

	Tax	Tax Revenue (Rs lakh)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(3)	Net Contribution to Above or Below Average Performance (%)
	(1)	(2)	(3)	(4)	(5)
1.	Land revenue and agricultural income tax	1511.00	1457.05	1.0370	+ 0.20
2.	Profession tax	Nil	208.45	-	- 0.78
3.	Stamps and registration fees	1225.29	1252.47	0.9783	- 0.10
4.	General sales tax				
	(i) Consumer goods	3674.80	7914.77	0.4643	- 15.73
	(ii) Producer goods	1872.07	2874.08	0.6514	- 3.72
5.	Sales tax on motor spirit	523.80	502.49	1.0424	+ 0.08
6.	Purchase tax on sugarcane	152.67	146.08	1.0451	+ 0.02
7.	Entertainment tax	408.24	465.76	0.8765	- 0.22
8.	Motor vehicles tax	522.00	653.78	0.7984	- 0.49
9.	Passenger and goods tax				
	(i) Passenger and goods tax (private sector)	268.08	705.92	0.3798	- 1.62
	(ii) Passenger tax (public sector)	181.93	265.57	0.6851	- 0.31
10.	Electricity duty	798.00	573.75	1.3908	+ 0.84
11.	State excise duty	1877.29	9854.99	0.1905	- 29.60
	Total	13090.91	26950.90	0.4857	- 51.43

Table A.4.4 TAX EFFORT INDEX AND NET CONTRIBUTION OF EACH TAX: GUJARAT (1973-76)

	Tax	Tax Revenue (Rs lakh)	Tax Potential (Rs lakh)	Index of Use of Tax Potential	Net Contribution to Above or Below Average Performance (%)
	(1)	(2)	(3)	(2)/(3) (4)	(5)
1.	Land revenue and agricultural income tax	765.33	861.42	0.8885	- 0.61
2.	Profession tax	Nil	223.44	-	- 1.43
3.	Stamps and registration fees	843.15	1123.38	0.7505	- 1.79
4.	General sales tax				
	(i) Consumer goods	5930.06	3873.02	1.5311	+ 13.12
	(ii) Producer goods	2995.38	3645.85	0.8216	- 4.15
5.	Sales tax on motor spirit	1101.10	924.28	1.1913	+ 1.13
6.	Purchase tax on sugarcane	116.13	63.15	1.8390	+ 0.34
7.	Entertainment tax	852.42	843.78	1.0102	+ 0.06
8.	Motor vehicles tax	1121.00	1330.25	0.8427	- 1.33
9.	Passenger and goods tax				
	(i) Passenger and goods tax (private sector)	222.93	531.05	0.4198	- 1.97
	(ii) Passenger tax (public sector)	1614.07	1312.86	1.2294	+ 1.92
10.	Electricity duty	1076.33	941.99	1.1426	+ 0.86
11.	State excise duty	Nil	-	-	-
	Total	16637.90	15674.47	1.0615	+ 6.15

Table A.4.5 TAX EFFORT INDEX AND NET CONTRIBUTION OF EACH TAX: HARYANA (1973-76)

	Tax	Tax Revenue (Rs lakh)	Tax Potential (Rs lakh)	Index of Use of Tax Potential (2)/(3)	Net Contribution to Above or Below Average Performance (%)
	(1)	(2)	(3)	(4)	(5)
1.	Land revenue and agricultural income tax	449.00	561.92	0.7990	- 1.65
2.	Profession tax	46.33	64.37	0.7197	- 0.26
3.	Stamps and registration fees	653.74	454.67	1.4378	+ 2.91
4.	General sales tax				
	(i) Consumer goods	1594.44	1765.21	0.9033	- 2.50
	(ii) Producer goods	550.07	907.54	0.6061	- 5.22
5.	Sales tax on motor spirit	230.18	315.26	0.7301	- 1.24
6.	Purchase tax on sugarcane	91.00	179.10	0.5081	- 1.29
7.	Entertainment tax	334.75	199.35	1.6792	+ 1.98
8.	Motor vehicles tax	524.00	413.80	1.2663	+ 1.61
9.	Passenger and goods tax				
	(i) Passenger and goods tax (private sector)	534.50	193.36	2.7643	+ 4.98
	(ii) Passenger tax (public sector)	903.51	438.31	2.0613	+ 6.79
10.	Electricity duty	354.67	296.27	1.1971	+ 0.85
11.	State excise duty	1058.73	1057.77	1.0009	+ 0.01
	Total	7324.92	6846.93	1.0698	+ 6.97

Table A.4.6 TAX EFFORT INDEX AND NET CONTRIBUTION OF EACH TAX: KARNATAKA (1973-76)

	Tax	Tax Revenue (Rs lakh)	Tax Potential (Rs lakh)	Index of Use of Tax Potential	Net Contribution to Above or Below Average Performance (%)
	(1)	(2)	(3)	(2)/(3) (4)	(5)
1.	Land revenue and agricultural income tax	868.33	1747.13	0.4970	- 4.25
2.	Profession tax	14.96	49.09	0.3047	- 0.16
3.	Stamps and registration fees	880.77	861.19	1.0227	+ 0.09
4.	General sales tax				
	(i) Consumer goods	3748.69	4034.08	0.9293	- 1.38
	(ii) Producer goods	2404.78	1438.74	1.6714	+ 4.67
5.	Sales tax on motor spirit	1126.67	675.13	1.6688	+ 2.18
6.	Purchase tax on sugarcane	278.19	285.43	0.9746	- 0.03
7.	Entertainment tax	716.70	1447.47	0.4951	- 3.53
8.	Motor vehicles tax	1414.50	1404.65	1.0070	+ 0.05
9.	Passenger and goods tax				
	(i) Passenger and goods tax (private sector)	404.17	773.34	0.5226	- 1.78
	(ii) Passenger tax (public sector)	338.34	1200.98	0.2817	- 4.17
10.	Electricity duty	595.53	789.18	0.7544	- 0.94
11.	State excise duty	4509.37	5991.02	0.7527	- 7.16
	Total	17300.80	20697.43	0.8359	- 16.59

Table A.4.7 TAX EFFORT INDEX AND NET CONTRIBUTION OF EACH TAX: KERALA (1973-76)

	Tax	Tax Revenue (Rs lakh)	Tax Potential (Rs lakh)	Index of Use of Tax Potential	Net Contribution to Above or Below Average Performance
	(1)	(2)	(3)	(2)/(3) (4)	(%) (5)
1.	Land revenue and agricultural income tax	1052.33	902.99	1.1654	+ 1.41
2.	Profession tax	99.79	142.92	0.6982	- 0.41
3.	Stamps and registration fees	1029.75	695.80	1.4799	+ 3.16
4.	General sales tax				
	(i) Consumer goods	5212.46	3075.41	1.6949	+ 20.23
	(ii) Producer goods	1406.54	1068.93	1.3158	+ 3.20
5.	Sales tax on motor spirit	289.90	424.49	0.6829	- 1.27
6.	Purchase tax on sugarcane	8.77	14.21	0.6172	- 0.05
7.	Entertainment tax	73.53	1050.96	0.0700	- 9.25
8.	Motor vehicles tax	796.50	629.43	1.2654	+ 1.58
9.	Passenger and goods tax				
	(i) Passenger and goods tax (private sector)	228.31	536.73	0.4254	- 2.92
	(ii) Passenger tax (public sector)	69.70	590.40	0.1181	- 4.93
10.	Electricity duty	296.33	386.43	0.7668	- 0.85
11.	State excise duty	1454.69	1042.49	1.3954	+ 3.90
	Total	12018.60	10561.19	1.1380	+ 13.80

Table A.4.8 TAX EFFORT INDEX AND NET CONTRIBUTION OF EACH TAX: MADHYA PRADESH (1973-76)

	Tax	Tax Revenue (Rs lakh)	Tax Potential (Rs lakh)	Index of Use of Tax Potential	Net Contribution to Above or Below Average Performance
	(1)	(2)	(3)	(2)/(3) (4)	(%) (5)
1.	Land revenue and agricultural income tax	1922.00	1369.59	1.4053	+ 3.28
2.	Profession tax	123.33	153.43	0.8038	- 0.18
3.	Stamps and registration fees	839.95	1246.15	0.6740	- 2.41
4.	General sales tax				
	(i) Consumer goods	4322.18	5514.26	0.7838	- 7.07
	(ii) Producer goods	1863.85	2837.33	0.6569	- 5.77
5.	Sales tax on motor spirit	313.64	536.61	0.5845	- 1.32
6.	Purchase tax on sugarcane	7.00	46.61	0.1502	- 0.23
7.	Entertainment tax	597.29	657.60	0.9080	- 0.36
8.	Motor vehicles tax	545.00	788.20	0.6914	- 1.44
9.	Passenger and goods tax				
	(i) Passenger and goods tax (private sector)	722.91	530.32	1.3632	+ 1.14
	(ii) Passenger tax (public sector)	489.60	385.03	1.2689	+ 0.62
10.	Electricity duty	675.00	578.44	1.1669	+ 0.57
11.	State excise duty	2844.56	2222.01	1.2801	+ 3.69
	Total	15266.31	16866.58	0.9051	- 9.49

Table A.4.9 TAX EFFORT INDEX AND NET CONTRIBUTION OF EACH TAX: MAHARASHTRA (1973-76)

	Tax	Tax Revenue (Rs lakh)	Tax Potential (Rs lakh)	Index of Use of Tax Potential	Net Contribution to Above or Below Average Performance
	(1)	(2)	(3)	(2)/(3) (4)	(%) (5)
1.	Land revenue and agricultural income tax	1610.00	1482.98	1.0857	+ 0.34
2.	Profession tax	1376.00	536.25	2.5660	+ 2.24
3.	Stamps and registration fees	1437.90	2045.96	0.7028	- 1.62
4.	General sales tax				
	(i) Consumer goods	9958.02	7615.66	1.3076	+ 6.25
	(ii) Producer goods	10110.55	8965.01	1.1278	+ 3.06
5.	Sales tax on motor spirit	2087.10	1812.64	1.1514	+ 0.73
6.	Purchase tax on sugarcane	1113.00	530.50	2.0980	+ 1.55
7.	Entertainment tax	2276.68	1476.81	1.5416	+ 2.13
8.	Motor vehicles tax	2178.00	2291.20	0.9506	- 0.30
9.	Passenger and goods tax				
	(i) Passenger and goods tax (private sector)	1138.24	1848.73	0.6157	- 1.90
	(ii) Passenger tax (public sector)	1864.81	1535.05	0.9506	+ 0.88
10.	Electricity duty	2597.00	1779.50	1.4594	+ 2.18
11.	State excise duty	2398.25	5552.00	0.4320	- 8.42
	Total	40145.50	37472.29	1.0713	+ 7.13

Table A.4.10 TAX EFFORT INDEX AND NET CONTRIBUTION OF EACH TAX: ORISSA (1973-76)

	Tax	Tax Revenue (Rs lakh)	Tax Potential (Rs lakh)	Index of Use of Tax Potential	Net Contribution to Above or Below Average Performance
	(1)	(2)	(3)	(2)/(3) (4)	(%) (5)
1.	Land revenue and agricultural income tax	261.67	757.34	0.3455	- 7.51
2.	Profession tax	-	67.70	-	- 1.03
3.	Stamps and registration fees	371.60	601.09	0.6182	- 3.47
4.	General sales tax				
	(i) Consumer goods	1412.01	2438.85	0.5790	- 15.55
	(ii) Producer goods	719.32	654.15	1.0996	+ 0.99
5.	Sales tax on motor spirit	109.67	199.02	0.5511	- 1.35
6.	Purchase tax on sugarcane	-	73.30	-	- 1.11
7.	Entertainment tax	105.87	166.46	0.6360	- 0.92
8.	Motor vehicles tax	518.50	420.92	1.2318	+ 1.48
9.	Passenger and goods tax				
	(i) Passenger and goods tax (private sector)	62.16	261.22	0.2380	- 3.01
	(ii) Passenger tax (public sector)	109.85	130.47	0.8420	- 0.31
10.	Electricity duty	449.33	354.63	1.2670	+ 1.43
11.	State excise duty	478.94	478.94	1.0000	0.00
	Total	4598.92	6604.10	0.6964	- 30.36

Table A.4.11 TAX EFFORT INDEX AND NET CONTRIBUTION OF EACH TAX: PUNJAB (1973-76)

	Tax	Tax Revenue (Rs lakh)	Tax Potential (Rs lakh)	Index of Use of Tax Potential	Net Contribution to Above or Below Average Performance
	(1)	(2)	(3)	(2)/(3) (4)	(%) (5)
1.	Land revenue and agricultural income tax	196.33	907.78	0.2163	- 6.74
2.	Profession tax	-	118.83	-	- 1.13
3.	Stamps and registration fees	1480.83	761.96	1.9434	+ 6.82
4.	General sales tax				
	(i) Consumer goods	3294.92	1885.48	1.7475	+ 13.36
	(ii) Producer goods	1005.42	1207.42	0.8327	- 1.92
5.	Sales tax on motor spirit	511.00	730.51	0.6995	- 2.08
6.	Purchase tax on sugarcane	-	163.91	-	- 1.55
7.	Entertainment tax	499.20	247.28	2.0188	+ 2.39
8.	Motor vehicles tax	565.50	692.550	0.8265	- 1.20
9.	Passenger and goods tax				
	(i) Passenger and goods tax (private sector)	559.60	257.66	2.1718	+ 2.86
	(ii) Passenger tax (public sector)	818.91	508.88	1.6092	+ 2.94
10.	Electricity duty	513.00	588.76	0.8713	- 0.72
11.	State excise duty	3973.45	2476.85	1.6042	+ 14.19
	Total	13418.16	10547.87	1.2722	+ 27.22

Table A.4.12 TAX EFFORT INDEX AND NET CONTRIBUTION OF EACH TAX: RAJASTHAN (1973-76)

	Tax	Tax Revenue (Rs lakh)	Tax Potential (Rs lakh)	Index of Use of Tax Potential	Net Contribution to Above or Below Average Performance (%)
	(1)	(2)	(3)	(2)/(3) (4)	(5)
1.	Land revenue and agricultural income tax	1197.00	980.45	1.2209	+ 1.92
2.	Profession tax	Nil	128.93	-	- 1.14
3.	Stamps and registration fees	404.92	811.73	0.4988	- 3.61
4.	General sales tax				
	(i) Consumer goods	3016.41	4172.13	0.7230	- 10.25
	(ii) Producer goods	1311.30	1017.78	1.2884	+ 2.60
5.	Sales tax on motor spirit	511.29	442.43	1.1556	+ 0.61
6.	Purchase tax on sugarcane	Nil	53.52	-	- 0.47
7.	Entertainment tax	291.52	261.00	1.1169	+ 0.27
8.	Motor vehicles tax	632.50	725.46	0.8719	- 0.82
9.	Passenger and goods tax				
	(i) Passenger and goods tax (private sector)	443.56	518.47	0.8555	- 0.66
	(ii) Passenger tax (public sector)	462.50	319.20	1.4503	+ 1.27
10.	Electricity duty	164.33	311.64	0.5273	- 1.31
11.	State excise duty	1447.35	1531.70	0.9449	- 0.75
	Total	9882.68	11274.44	0.8766	- 12.34

Table A.4.13 TAX EFFORT INDEX AND NET CONTRIBUTION OF EACH TAX: TAMIL NADU (1973-76)

	Tax	Tax Revenue (Rs lakh)	Tax Potential (Rs lakh)	Index of Use of Tax Potential	Net Contribution to Above or Below Average Performance
	(1)	(2)	(3)	(2)/(3) (4)	(%) (5)
1.	Land revenue and agricultural income tax	955.67	1582.10	0.6041	- 2.32
2.	Profession tax	153.80	301.95	0.5094	- 0.55
3.	Stamps and registration fees	2175.29	1333.03	1.6318	+ 3.11
4.	General sales tax				
	(i) Consumer goods	8335.43	5368.54	1.5526	+ 10.97
	(ii) Producer goods	4439.18	4919.23	0.9024	- 1.78
5.	Sales tax on motor spirit	1721.33	1011.34	1.7020	+ 2.63
6.	Purchase tax on sugarcane	344.72	387.78	0.8890	- 0.16
7.	Entertainment tax	1581.77	2412.63	0.6556	- 3.07
8.	Motor vehicles tax	1511.91	1053.60	1.4350	+ 1.69
9.	Passenger and goods tax				
	(i) Passenger and goods tax (private sector)	1041.84	813.88	1.2801	+ 0.84
	(ii) Passenger tax (public sector)	1130.25	1560.38	0.7243	- 1.59
10.	Electricity duty	1208.89	1181.80	1.0299	+ 0.10
11.	State excise duty	5102.08	5114.67	0.9975	- 0.05
	Total	29702.16	27040.93	1.0984	+ 9.84

Table A.4.14 TAX EFFORT INDEX AND NET CONTRIBUTION OF EACH TAX: UTTAR PRADESH (1973-76)

	Tax	Tax Revenue (Rs lakh)	Tax Potential (Rs lakh)	Index of Use of Tax Potential	Net Contribution to Above or Below Average Performance
	(1)	(2)	(3)	(2)/(3) (4)	(%) (5)
1.	Land revenue and agricultural income tax	2949.67	2800.61	1.0532	+ 0.47
2.	Profession tax	Nil	406.72	-	- 1.28
3.	Stamps and registration fees	2765.28	2656.12	1.0411	+ 0.34
4.	General sales tax				
	(i) Consumer goods	7880.90	11365.97	0.6934	+ 10.97
	(ii) Producer goods	3371.10	3686.46	0.9145	- 0.99
5.	Sales tax on motor spirit	1172.00	1172.05	1.0000	0.00
6.	Purchase tax on sugarcane	1351.67	1729.52	0.7815	- 1.19
7.	Entertainment tax	1479.68	799.64	1.8504	+ 2.14
8.	Motor vehicles tax	1532.50	1288.29	1.1896	+ 0.77
9.	Passenger and goods tax				
	(i) Passenger and goods tax (private sector)	1592.49	859.33	1.8552	+ 2.31
	(ii) Passenger tax (public sector)	743.51	889.52	0.8359	- 0.46
10.	Electricity duty	574.33	976.22	0.5883	- 1.26
11.	State excise duty	3797.19	3138.06	1.2100	+ 2.07
	Total	29210.32	31768.51	0.9195	- 8.05

Table A.4.15 TAX EFFORT INDEX AND NET CONTRIBUTION OF EACH TAX: WEST BENGAL (1973-76)

	Tax (1)	Tax Revenue (Rs lakh) (2)	Tax Potential (Rs lakh) (3)	Index of Use of Tax Potential (2)/(3) (4)	Net Contribution to Above or Below Average Performance (%) (5)
1.	Land revenue and agricultural income tax	1146.00	2227.82	0.5144	- 4.71
2.	Profession tax	Nil	319.84	-	- 1.39
3.	Stamps and registration fees	1321.53	1526.49	0.8657	- 0.89
4.	General sales tax				
	(i) Consumer goods	4137.37	6135.48	0.6743	- 8.71
	(ii) Producer goods	4158.67	5151.23	0.8073	- 4.33
5.	Sales tax on motor spirit	958.29	871.31	1.0998	+ 0.38
6.	Purchase tax on sugarcane	Nil	43.43	-	- 0.19
7.	Entertainment tax	907.32	1118.36	0.8113	- 0.92
8.	Motor vehicles tax	980.00	1024.93	0.9562	- 0.20
9.	Passenger and goods tax				
	(i) Passenger and goods tax (private sector)	Nil	1303.86	-	- 5.68
	(ii) Passenger tax (public sector)	Nil	243.99	-	- 1.06
10.	Electricity duty	1159.67	994.94	1.1655	+ 0.72
11.	State excise duty	1897.92	1983.91	0.9567	- 0.37
	Total	16666.77	22945.63	0.7264	- 27.35

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World Bank Staff Working Paper No. 449. April 1981. 36 pages (including appendix).

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The Johns Hopkins University Press. June 1982. About 480 pages.

LC 81-48175. ISBN 0-8018-2803-1, $35.00 hardcover; ISBN 0-8018-2804-X, $12.95 paperback.

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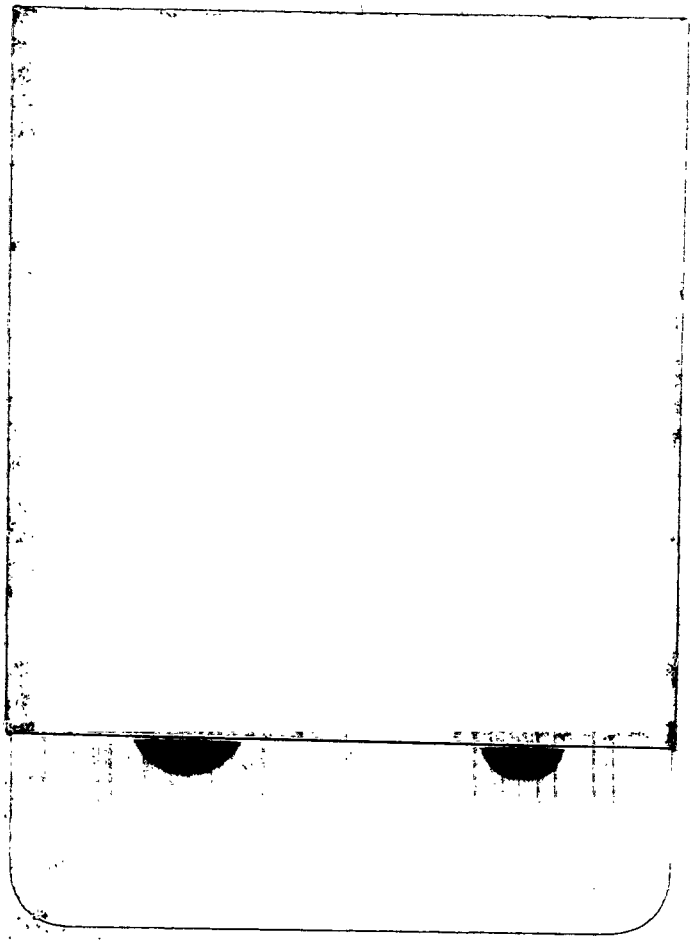

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